

PUBLIC

BMRS API and Data Push User Guide

For Phase 2 Release

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BMRS

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BMRS

CONTEXT

1 Introduction

1.1 The BMRS

The Balancing Mechanism Reporting Service (BMRS) is the primary channel for providing operational data relating to the GB Electricity Balancing and Settlement Arrangements provided by National Grid. It is used extensively by market participants in taking trading decisions and understanding market dynamics. It acts as both a near real time reporting platform and a means of accessing historic data. The timely and accurate provision of such data underpins the effectiveness of the BSC arrangements.

1.2 BMRS Redevelopment

A history of successful delivery means that BMRS is highly valued and increasingly championed by the industry as a platform for providing wider market data (as evidenced by P291¹ & P295²). However the BMRS was built on an aging platform that, while fully supported, carries significant cost and has advanced little since it was created in 2001. BMRS has served the industry well but it is becoming increasingly challenging to support the growing data demands of its users and to accommodate new data items.

Further information on the BMRS redevelopment can be found on the [ELEXON website](#).

1.3 Purpose and Scope

1.3.1 What is covered in this document?

From December 2014, ELEXON is pleased to be introducing a set of Application Programming Interfaces (APIs) which will enable market participants (you) to retrieve BMRS data simply and securely. This document is intended to provide guidance for users into how to use the API and include:

- Registration process and access
- Accessing data API and Uniform Resource Locator (URL)
- API functions such as search parameters
- Structure and schemas for API request
- Using and connecting to the Data Push Service

1.3.2 Are there any prerequisites?

To use this document, an understanding of software development, Web services and the BMRS user interface and its data is required. By using the API, users agree to the [API Terms of Use Policy](#).

1.3.3 Which data can I access via the API?

Initially, only data relating to P291 (REMIT) and P295 (Transparency Regulation) was available via the Representational State Transfer (REST) APIs. We have now updated the document which will make existing BMRS available via the rest API. In this document we will refer to the data as follows:

- Transparency and REMIT Data (Phase 1) – **Section 5**
 - Existing BMRS Data (Phase 2) – Available from July 2015 – **Section 6**
-

¹ REMIT Inside Information Reporting Platform for GB Electricity

² Submission and publication of Transparency regulation data via the BMRS

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- Data Push Service – **Section 7**
- Existing BMRS Data (Phase 3) – Available from March 2016

1.3.4 Will the data currently available on BMRS be available via the API?

The delivery is in three phases as shown above. From December 2014, you can access the Transparency & REMIT data and July 2015, a lot of the existing BMRS data will be available.

The BMRS generally publishes two types of data:

- Data from National Grid which are not modified (or Market participants for REMIT)
- BMRS derived data such imbalance prices which are calculated by the BMRS

Most of the raw data from National Grid will be made available in July 2015 as part of Phase 2 delivery. The derived data and dynamic/physical data will be delivered in March 2016 as part of Phase 3 delivery.

Section 4.2 provides a list of all the data available through the different phases of the project.

1.3.5 Physical data is raw data, why is it not available in July 2015?

When the project was originally scoped, modification P297 was included to be delivered in Phase 3. Due to the synergies with P297, it was efficient to deliver all the dynamic and physical data with P297. However the Electricity Balancing System (EBS) is delayed which mean P297 will no longer be part of phase 3.

1.3.6 Can I access the data from the API by putting the URL in the web browser?

Yes – In this version of the API you can retrieve information using a web browser.

1.3.7 What do I need to the Data Push Service?

If you have not taken part in our user testing of the Data Push Service, we request that you liaise with us before you use the Data Push Service for the first time. Further details on the data push service are available in **Section 7**

ANY QUERIES PLEASE CONTACT THE BSC SERVICE DESK: BSCSERVICEDESK@CGI.COM

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1.4 Getting Started

In summary, there are four steps required in using the API:

- 1. Register on the ELEXON Portal
- 2. Retrieve API Key
- 3. Use API Key to gain access to the API URL
- 4. Retrieve results from the API

These steps are detailed in the following sections of this document.

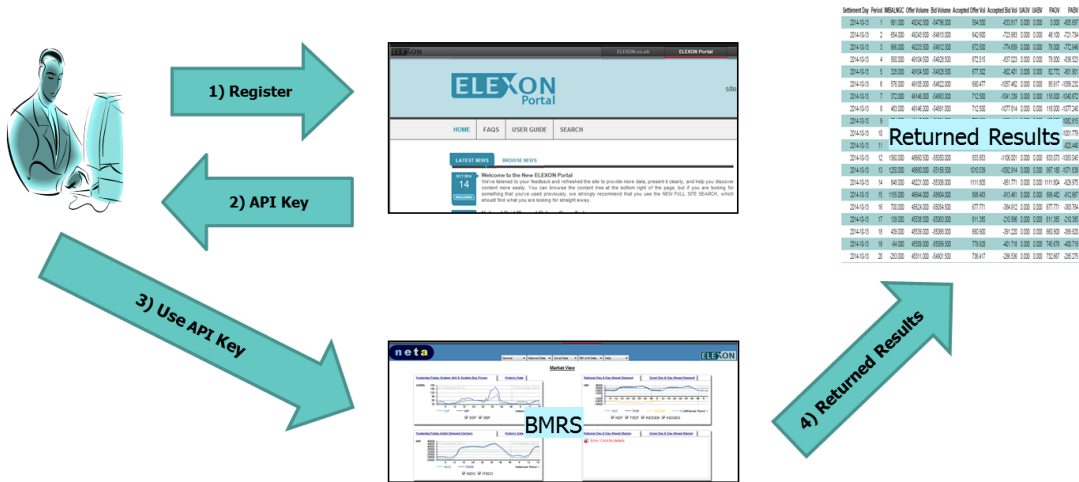


Figure 1: Steps to use API

REGISTRATION PROCESS

2 ELEXON Portal Registration Process

2.1 Accessing ELEXON Portal

The web address for the accessing the portal is <https://www.elexonportal.co.uk/>. You can also access this by clicking on the "ELEXON Portal" button at the top of the BMRS or ELEXON websites.

Once the page has loaded use your log in credentials to access the page or register as shown below.

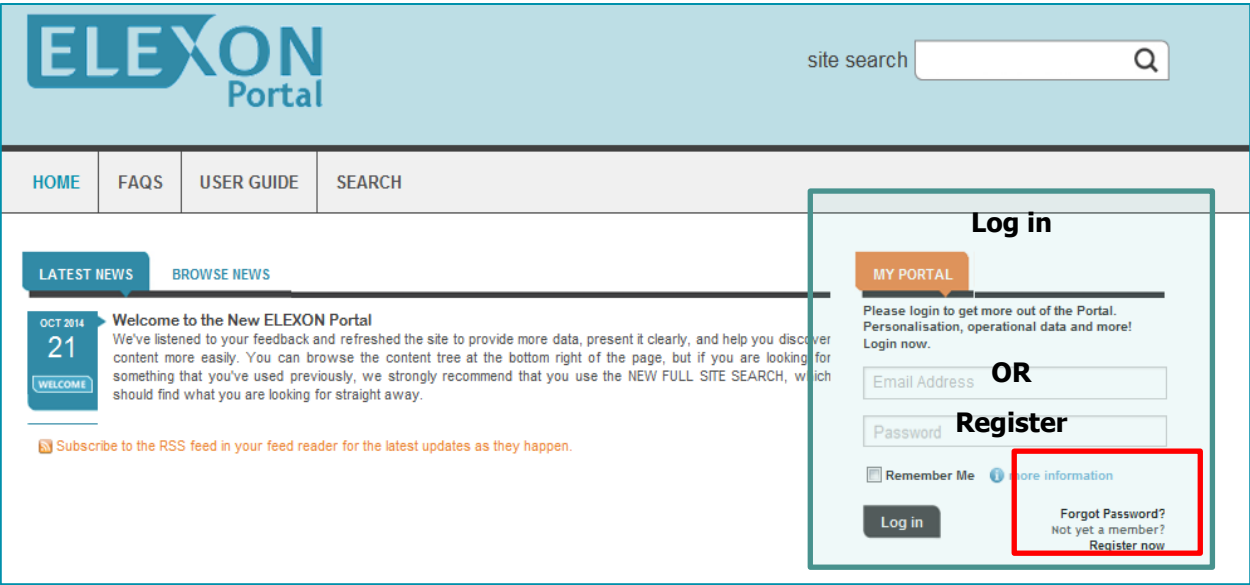


Figure 2: Accessing the ELEXON Portal

2.2 Registration

Follow the instructions on the screen to register.

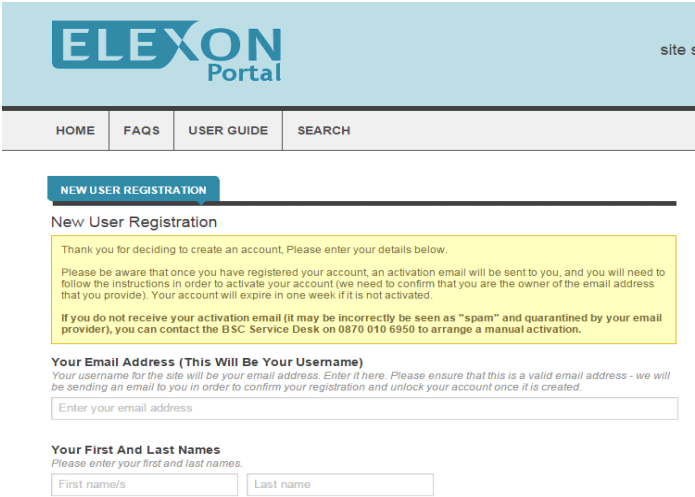


Figure 3: Portal registration screen

Once you have entered all the details, you will be asked to activate the account. A link and an activation code will be sent to the email address you used during the registration process.

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3 The API Key

The API key has three primary functions:

- Identify the program calling the API;
- Serves as authentication code; and
- Monitor and control usage for overall service protection.

Once you have registered, you will have access to a range of content available on the ELEXON Portal. To get your API Key, click on 'my profile' below and you will find the API key under scripting key.

Note: The key shown below is for illustration purposes and is not a valid key.

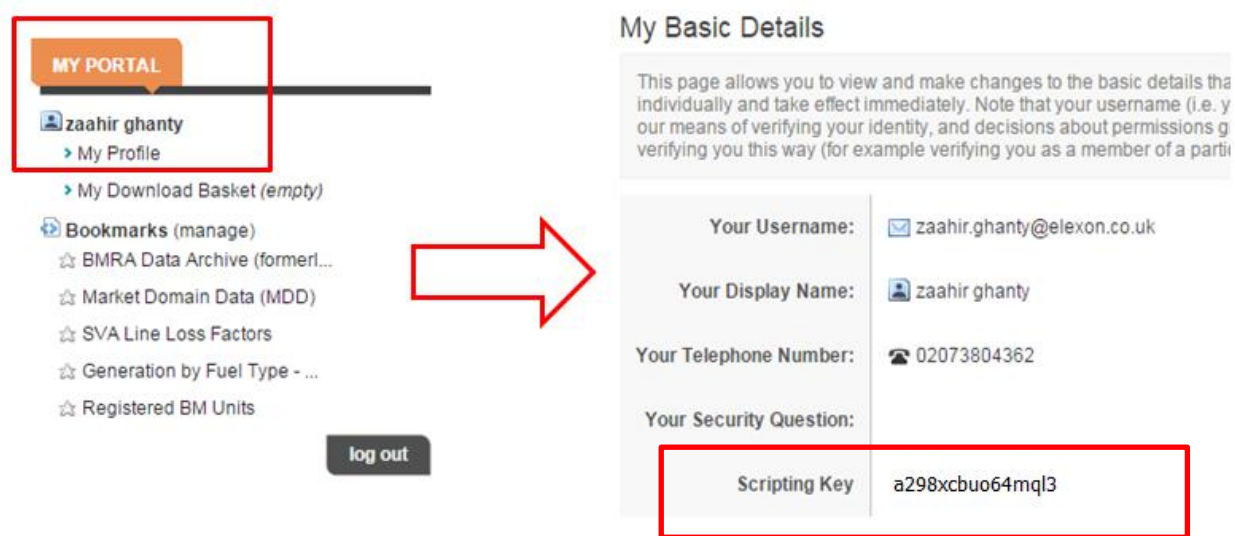


Figure 4: Retrieving API Key

Note: The API Key will also serve as authentication for the Data Push Service

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ACCESSING THE API

4 Data available through APIs

This section of the document details the API design to enable the user to retrieve data from BMRS. In particular highlights the following:

- API Uniform resource locator (URL)
- The search parameters which will be passed as input parameters in the API URLs
- Expected format for returned results

4.1 API Design and Key Features

A sample URL is shown below. As this document is still in draft stages, the different entities, such as the host address, port number will be subject to change. The final version of this document will provide the definitive view.

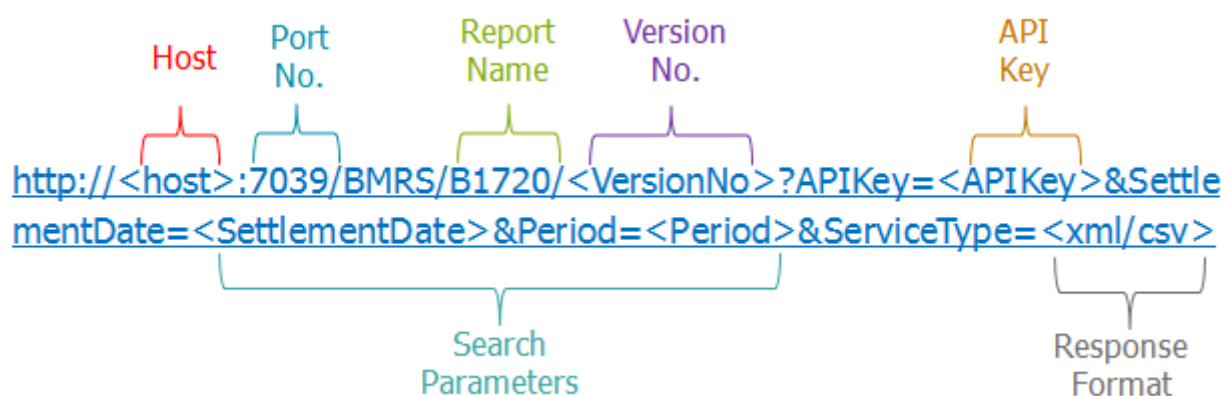


Figure 5: API URL example

- **Host address:** This is the first portion of the URL; confirmation will be provided as to which host to use;
- **Port Number:** The communications endpoint for the API;
- **Report name:** This is the unique identifier for the report generated by the API. This is also the flow identifier of transparency files coming from National Grid;
- **Version number:** The API will be versioned and this will help to minimise impact on parties when a new version is published. The version number will be input here e.g. V1;
- **API Key:** This is the unique identifier authentication code given at the registration process used to invoke the API and it is also used to identify the program currently calling the API. The API key will also help ELEXON to monitor for abuse of the service as per the API Terms of Use;
- **Search Parameters:** These are the search parameters which will be used to filter the reports. For the Transparency regulation data, this will be the Settlement Date and Settlement Period in most cases. Note that returned results can be capped to prevent undue load on the system; and
- **Response format:** This is the response type for returned results which will be as XML or CSV. XML is default format and will return an XML response if left blank.

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Details of API components

For the API, you will use the following:

- HOST: <https://api.bmreports.com>
- PORT: 443. (Do not need to specify, as this is the default port for HTTPS)
- REPORT NAME: Already included in the API flow details
- VERSION NUMBER: v1 or V1 (case insensitive)
- API Key: Your API Key from ELEXON Portal

Note: For BMRS test environment the HOST will be <https://testapi.bmreports.com>

Service Desk Support: bscservicedesk@cgi.com

4.2 Summary of Data Available through REST API

4.2.1 BMRS Transparency & REMIT Data (Phase 1) from RESTful API

Through the API, you can retrieve data relating to REMIT (P291) and Transparency Regulations (P295). The list of flows available is listed below and detailed in section 5. All the BMRS Transparency and REMIT data are available in REST API and from July 2015, on the Data Push Service.

P295 - Transparency Data Items from NGC	NGC BRD Ref.	Regulation Ref.	Source	Frequency of Receipt (by BMRS)	Phase (Delivery Date)
Actual Total Load Per Bidding Zone	B0610	A6.1a	NGC - EFS	Half Hourly	1 (December 2014)
Day-Ahead Total Load Forecast Per Bidding Zone	B0620	A6.1b	NGC - EFS	Daily	1 (December 2014)
Week-Ahead Total Load Forecast Per Bidding Zone	B0630	A6.1c	NGC - EFS	Weekly	1 (December 2014)
Month-Ahead Total Load Forecast Per Bidding Zone	B0640	A6.1d	NGC - EFS	Monthly	1 (December 2014)
Year-Ahead Total Load Forecast Per Bidding Zone	B0650	A6.1e	NGC - EFS	Yearly	1 (December 2014)
Planned Unavailability Of Consumption Units	B0710	A7.1a	NGC - MODIS	Ad-hoc	1 (December 2014)

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Changes In Actual Availability Of Consumption Units	B0720	A7.1b	NGC - MODIS	Ad-hoc	1 (December 2014)
Year-Ahead Forecast Margin	B0810	A8.1	NGC – MODIS	Yearly	1 (December 2014)
Expansion and Dismantling Projects	B0910	A9.1	NGC – MODIS	Yearly	1 (December 2014)
Planned Unavailability In The Transmission Grid	B1010	A10.1a	NGC – MODIS	Ad-hoc	1 (December 2014)
Changes In Actual Availability In The Transmission Grid	B1020	A10.1b	NGC – MODIS	Ad-hoc	1 (December 2014)
Changes In Actual Availability Of Off-Shore Grid	B1030	A10.1c	NGC – MODIS	Ad-hoc	1 (December 2014)
Countertrading	B1320	A13.1b	NGC – MODIS	Half Hourly	1 (December 2014)
Costs Of Congestion Management	B1330	A13.1c	NGC – MODIS	Monthly	1 (December 2014)
Installed Generation Capacity Aggregated	B1410	A14.1a	NGC – MODIS	Yearly	1 (December 2014)
Day-Ahead Aggregated Generation	B1430	A14.1c	NGC - EFS	Daily	1 (December 2014)
Day-Ahead Generation forecasts For Wind And Solar	B1440	A14.1d	NGC - EFS	Daily	1 (December 2014)
Actual Aggregated Generation Per Type	B1620	A16.1b	NGC - EFS	Half Hourly	1 (December 2014)
Actual Or Estimated Wind And Solar Power Generation	B1630	A16.1c	NGC - EFS	Half Hourly	1 (December 2014)
Planned Unavailability Of Generation Units	B1510	A15.1a	NGC – MODIS	Ad-hoc	1 (December 2014)
Changes In Actual Availability Of Generation Units	B1520	A15.1b	NGC – MODIS	Ad-hoc	1 (December 2014)
Planned Unavailability Of Production Units	B1530	A15.1c	NGC – MODIS	Ad-hoc	1 (December 2014)
Changes In Actual Availability Of Production Units	B1540	A15.1d	NGC – MODIS	Ad-hoc	1 (December 2014)
Amount Of Balancing Reserves Under Contract	B1720	A17.1b	NGC – MODIS	Half Hourly	1 (December 2014)
Prices Of Procured Balancing Reserves	B1730	A17.1c	NGC – MODIS	Half Hourly	1 (December 2014)
Accepted Aggregated Offers	B1740	A17.1d	NGC – MODIS	Half Hourly	1 (December 2014)
Activated Balancing Energy	B1750	A17.1e	NGC – MODIS	Half Hourly	1 (December 2014)
Prices Of Activated Balancing Energy	B1760	A17.1f	NGC – MODIS	Half Hourly	1 (December 2014)
Financial Expenses And Income For Balancing	B1790	A17.1i	NGC – MODIS	Monthly	1 (December 2014)
Cross Border Balancing – Volumes Of Exchanged Bids	B1810	A17.1ja	NGC – MODIS	Half Hourly	1 (December 2014)
Cross Border Balancing – Prices	B1820	A17.1jb	NGC – MODIS	Half Hourly	1 (December 2014)

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Cross Border Balancing –Energy Activated	B1830	A17.1jc	NGC – MODIS	Half Hourly	1 (December 2014)
Configuration Flow	B1930	NA	NGC – MODIS	Ad-hoc	1 (December 2014)
Actual Generation Output Per Generation Unit	B1610	A16.1a	Legacy	Half Hourly	1 (December 2014)
Imbalance Prices	B1770	A17.1g	Legacy	Half Hourly	1 (December 2014)
Aggregated Imbalance Volumes	B1780	A17.1h	Legacy	Half Hourly	1 (December 2014)
P291 REMIT Urgent Market Messages	NA	NA	ELEXON Portal, NGC	Ad-hoc	1 (December 2014)

4.2.2 Existing BMRS Data (Phase 2 & 3) from RESTful API

From July 2015, you will be able to use the REST API to retrieve data. Below is a table of which of the Existing BMRS data is available via the REST API. The list of data available for the data push can be found in section 7.

RESTful API#	RESTful API Data Set	Data Items Covered	IDD Item Ref (Input) traceability	Phase and Delivery Date
RA-1001	Forecast Day and Day Ahead Demand Data (National & Zonal)	As below	As below	Phase 2 (July 2015)
		National Day and Day-Ahead National Demand Forecast	NDF	
		Day and Day-Ahead Indicated Demand	INDEM	
		Day and Day-Ahead Indicated Generation	INDGEN	
		Day and Day-Ahead Transmission System Demand Forecast	TSDF	
RA-1002	Forecast Day and Day Ahead Margin and Imbalance Data	As below	As below	Phase 2 (July 2015)
		Day and Day-Ahead Margin	MELNGC	
		Day and Day-Ahead Imbalance	IMBALNGC	
RA-1003	Demand & Surplus Forecast Data (2-14 days ahead)		As below	
		Demand & Surplus Forecast Data (2-14 days ahead) National Demand	NDFD	Phase 2 (July 2015)

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		Demand & Surplus Forecast Data (2-14 days ahead) Surplus	OCNMFD	
		Demand & Surplus Forecast Data (2-14 days ahead) Transmission System Demand	TSDFD	
		Demand & Surplus Forecast Data (2-14 days ahead) Generating Plant Demand Margin	OCNMFD2	
RA-1004	Demand & Surplus Forecast Data (2-52 weeks ahead)	As below	As below	
		Demand & Surplus Forecast Data (2-52 weeks ahead) National Demand	NDFW	Phase 2 (July 2015)
		Demand & Surplus Forecast Data (2-52 weeks ahead) Transmission System Demand	TSDFW	
		Demand & Surplus Forecast Data (2-52 weeks ahead) Surplus	OCNMFW	
		Demand & Surplus Forecast Data (2-52 weeks ahead) Generating Plant Demand Margin	OCNMFW2	
RA-1005	National Output Usable (2-14 days ahead)	National Output Usable (2-14 days ahead)	NOU2T14D	Phase 2 (July 2015)
RA-1006	National Output Usable (2-49 days ahead)	National Output Usable (2-49 days ahead)	NOU2T49D	Not currently received from National Grid
RA-1007	National Output Usable (2-52 weeks ahead)	National Output Usable (2-52 weeks ahead)	NOU2T52W	Phase 2 (July 2015)
RA-1008	National Output Usable (1 year ahead)	National Output Usable (1 year ahead)	NOUY1	Phase 2 (July 2015)
RA-1009	National Output Usable (2 year ahead)	National Output Usable (2 year ahead)	NOUY2	Phase 2 (July 2015)
RA-1010	National Output Usable (3 year ahead)	National Output Usable (3 year ahead)	NOUY3	Phase 2 (July 2015)
RA-1011	National Output Usable (4 year ahead)	National Output Usable (4 year ahead)	NOUY4	Phase 2 (July 2015)

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RA-1012	National Output Usable (5 year ahead)	National Output Usable (5 year ahead)	NOUY5	Phase 2 (July 2015)
RA-1013	Zonal Output Usable (2-14 days ahead)	Zonal Output Usable (2-14 days ahead)	ZOU2T14D	Phase 2 (July 2015)
RA-1014	Zonal Output Usable (2-49 days ahead)	Zonal Output Usable (2-49 days ahead)	ZOU2T49D	Not currently received from National Grid
RA-1015	Zonal Output Usable (2-52 weeks ahead)	Zonal Output Usable (2-52 weeks ahead)	ZOU2T52W	Phase 2 (July 2015)
RA-1016	Zonal Output Usable (1 year ahead)	Zonal Output Usable (1 year ahead)	ZOUY1	Phase 2 (July 2015)
RA-1017	Zonal Output Usable (2 year ahead)	Zonal Output Usable (2 year ahead)	ZOUY2	Phase 2 (July 2015)
RA-1018	Zonal Output Usable (3 year ahead)	Zonal Output Usable (3 year ahead)	ZOUY3	Phase 2 (July 2015)
RA-1019	Zonal Output Usable (4 year ahead)	Zonal Output Usable (4 year ahead)	ZOUY4	Phase 2 (July 2015)
RA-1020	Zonal Output Usable (5 year ahead)	Zonal Output Usable (5 year ahead)	ZOUY5	Phase 2 (July 2015)
RA-1021	National Output Usable by Fuel Type (2-14 days ahead)	National Output Usable by Fuel Type (2-14 days ahead)	FOU2T14D	Phase 2 (July 2015)
RA-1022	National Output Usable by Fuel Type and BM Unit (2-14 days ahead)	National Output Usable by Fuel Type and BM Unit (2-14 days ahead)	UOU2T14D	Phase 2 (July 2015)
RA-1023	National Output Usable by Fuel Type (2-52 weeks ahead)	National Output Usable by Fuel Type (2-52 weeks ahead)	FOU2T52W	Phase 2 (July 2015)
RA-1024	National Output Usable by Fuel Type and BM Unit (2-52 weeks ahead)	National Output Usable by Fuel Type and BM Unit (2-52 weeks ahead)	UOU2T52W	Phase 2 (July 2015)

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RA-1025	Initial Demand Outturn	As below	As below	Phase 2 (July 2015)
		Initial Demand Outturn	INDO	
		Initial Transmission System Demand Outturn	ITSDO	
RA-1026	Peak Demand	Peak Demand	TSDF, ITSDO	Phase 3 (March 2016)
RA-1027	Indicative Peak Demand Information(using Operational Metering Data)	Indicative Peak Demand Information(using Operational Metering Data)	To be analysed in Phase 3 (March 2016)	Phase 3 (March 2016)
RA-1028	System Demand	System Demand	TSDF, ITSDO	Phase 3 (March 2016)
RA-1029	Indicative Triad Demand Information(using Settlement Metering Data)	Indicative Triad Demand Information(using Settlement Metering Data)	TSDFW/ S0142	Phase 3 (March 2016)
RA-1030	Gate Closure Data / BM Unit Physical Data	As below	As below	Phase 3 (March 2016)
		FPN Data	PN,FPN	
		QPN Data	QPN	
		Maximum Export Level Data	MEL, MELS	
		Maximum Import Level Data	MIL, MILS	
		Bid-Offer Acceptance Level Flagged Data (post P217)	BOALF	
RA-1031	Dynamic Data	As below	As below	
		Run Up Rate Export	RURE	
		Run Down Rate Export	RDRE	
		Run Up Rate Import	RURI	

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		Run Down Rate Import	RDRI	
		Notice to Deviate from Zero	NDZ	
		Notice to Deliver Bids	NTB	Phase 3 (March 2016)
		Notice to Deliver Offers	NTO	
		Minimum Zero Time	MZT	
		Minimum Non-Zero Time	MNZT	
		Stable Export Limit	SEL	
		Stable Import Limit	SIL	
		Maximum Delivery Volume	MDV	
		Maximum Delivery Period	MDP	
RA-1032	Bid-Offer Level Data	Bid-Offer Level Data	BOD	Phase 2 (July 2015)
RA-1033	Derived BM Unit Data	As below	As below	
		Bid Acceptance Volumes	Phase 3	Phase 3 (March 2016)
		Offer Acceptance Volumes	Phase 3	
		Indicative Period Bid Acceptance Volumes	IQAB	
		Indicative Period Offer Acceptance Volumes	IQAO	
		Indicative Period Bid Cashflow	ICB	
		Indicative Period Offer Cashflow	ICO	
RA-1034	Market Imbalance	Market Imbalance	Phase 3	Phase 3 (March 2016)
RA-1035	Derived System-wide Data	System Buy/Sell Prices (yesterday, today, historic)	SBP, SSP	Phase 3 (March 2016)

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RA-1036	System Prices – Detailed Reporting	System Prices – Detailed Reporting	various	Phase 3 (March 2016)
RA-1037	Market Depth Data	Market Depth Data (Historic, Current)	various	Phase 3 (March 2016)
RA-1038	Latest Acceptances	Latest Acceptance Data	various	Phase 3 (March 2016)
RA-1039	Historic Acceptances	Historic Acceptance Data	various	Phase 3 (March 2016)
	Balancing Services Adjustment Action Data	As below	As below	Phase 2 (July 2015)
RA-1040a		Balancing Services Adjustment Action Data	NETBSAD	
RA-1040b		Balancing Services Adjustment Action Data	DISBSAD	
RA-1041	Market Index Data	Market Index Data	MID	Phase 2 (July 2015)
RA-1042	Applicable Balancing Services Volume Data	Applicable Balancing Services Volume Data	QAS	
RA-1043	Credit Default Notice Data	Credit Default Notice Data	CDN	Phase 2 (July 2015)
RA-1044	Temperature Data	Temperature Data	TEMP, REFTEMP	Phase 2 (July 2015)
RA-1045	Wind Generation Forecast and Outturn Data	Wind Generation Forecast and Outturn Data	WINDFOR, FUELHH	Phase 2 (July 2015)
RA-1046	Peak Wind Generation Forecast	Peak Wind Generation Forecast	WINDFOR	Phase 2 (July 2015)
RA-1047	Instantaneous Generation By Fuel Type	Instantaneous Generation By Fuel Type	FUELINST	Phase 2 (July 2015)
RA-1048	Half Hourly Outturn Generation By Fuel Type	Half Hourly Outturn Generation By Fuel Type	FUELHH	Phase 2 (July 2015)

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RA-1049	Generation By Fuel Type (Current)	Generation By Fuel Type (Current)	FUELINST, FUELHH	Phase 2 (July 2015)
RA-1050	Rolling System Demands (Current / Historic)	Rolling System Demands (Current / Historic)	FUELINST	Phase 2 (July 2015)
RA-1051	Transmission System Demand	Transmission System Demand	Assumed to be same as TSDF	Not Required as assumed to be same as TSDF
RA-1052	Half Hourly Interconnector Outturn Generation	Half Hourly Interconnector Outturn Generation	FUELHH	Phase 2 (July 2015)
RA-1053	Daily Energy Volume Data	Daily Energy Volume Data	INDOD, DEV Ref	Phase 2 (July 2015)
RA-1054	Non-BM STOR Instructed Volume Data	Non-BM STOR Instructed Volume Data	NONBM	Phase 2 (July 2015)
RA-1055	System Frequency	System Frequency	FREQ	Phase 2 (July 2015)
RA-1056	Indicative System Price Stack Data	As below	ISPSTACK	Phase 3 (March 2016)
	<i>(Check if this is same as System prices - detailed reporting)</i>	Indicative System Price Bid Stack Data	ISBP	
		Indicative System Price Offer Stack Data	ISSP	
RA-1057	SO-SO Prices	SO-SO Prices (Yesterday / Today / Historic)	SO-SO	Phase 2 (July 2015)
RA-1058	SO-SO Trades	SO-SO Trades		Phase 2 (July 2015)
RA-1059	System Messages	System Messages	SYSMSG	Phase 3 (March 2016)
RA-1060	System Warnings	System Warnings	SYSWARN	Phase 2 (July 2015)
RA-1061	BM Unit Information	BM Unit Information	Various	Phase 3 (March 2016)

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RA-1062	System Warnings (Electricity summary Page)	(Derivations for Electricity summary Page)	SYSWARN	Phase 3 (March 2016)
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5 BMRS Transparency & REMIT Data (Phase 1) API Details

5.1 API Balancing flow details

5.1.1 B1720 - AmountOfBalancingReservesUnderContract

API service details for the flow B1720 is as follows

Service Name	AmountOfBalancingReservesUnderContractService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1720/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1720/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameters. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Market Agreement Type	String		No	NA	Monthly
Power System Resource Type	String		No	NA	Generation
Flow Direction	String		No	NA	Stable
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1

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Quantity	String		No	%d%d%d	200
Document Type	String		No		System total load
Doc Status	String		No		Intermediate
Process Type	String		No		Realised
Resolution	String		No		PT30M
Curve Type	String		No		Point
Active Flag	String		No		Y
Document Id	String		No		NGET-EMFIP-ATL-401
Document RevNum	String		No		1

5.1.2 B1730 - PricesOfProcuredBalancingReserves

API service details for the flow B1730 is as follows

Service Name	PricesOfProcuredBalancingReservesService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1730/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1730/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					

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Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Market Agreement Type	String		No	NA	Monthly
Power System Resource Type	String		No	NA	Generation
Flow Direction	String		No	NA	Stable
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Procurement Price Amount	String		No		661237.297
Price Category	String		No	NA	Excess Balance
Document Type	String		No		System total load
Doc Status	String		No		Intermediate
Process Type	String		No		Realised
Resolution	String		No		PT30M
Curve Type	String		No		Point
Active Flag	String		No		Y
Document Id	String		No		NGET-EMFIP-ATL-401
Unit Of Currency	String		No		GBP
Document RevNum	String		No		1

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5.1.3 B1740 - AcceptedAggregatedOffers

API service details for the flow B1740 is as follows

Service Name	AcceptedAggregatedOffersService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1740/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1740/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes		AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No		csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Power System Resource Type	String		No	NA	Load
Flow Direction	String		No	NA	Up
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Quantity	String		No		50
Secondary Quantity (MAW)	String		No		50
Document Type	String		No		System total load
Doc Status	String		No		Intermediate
Process Type	String		No		Realised

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Resolution	String		No		PT30M
Curve Type	String		No		Point
Active Flag	String		No		Y
Document Id	String		No		NGET-EMFIP-ATL-401
Document RevNum	String		No		1

5.1.4 B1750 – ActivatedBalancingEnergy

API service details for the flow B1750 is as follows

Service Name	ActivatedBalancingEnergyService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1750/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1750/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Power System Resource Type	String		No	NA	Load
Flow Direction	String		No	NA	Stable

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Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Activation Quantity	String		No		50
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.1.5 B1760 – PricesOfActivatedBalancingEnergy

API service details for the flow B1760 is as follows

Service Name	PricesOfActivatedBalancingEnergyService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1760/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1760/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml

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API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Power System Resource Type	String		No	NA	Load
Flow Direction	String		No	NA	Stable
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Activation Price Amount	String		No		661237.297
Price Category	String		No	NA	Excess Balance
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

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5.1.6 B1770 – ImbalancePrices

API service details for the flow B1770 is as follows

Service Name	ImbalancePricesService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1770/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1770/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	Int		No	*/1-50	1
Imbalance Price Amount	String		No		661237.297
Price Category	String		No	NA	Excess Balance
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point

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Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.1.7 1780 – AggregatedImbalanceVolumes

API service details for the flow B1780 is as follows

Service Name	AggregatedImbalanceVolumesService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1780/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1780/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Balance Energy Deviation
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Imbalance Quantity	String		No		661237.297
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate

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Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.1.8 B1790 – FinancialExpensesAndIncomeForBalancing

API service details for the flow B1790 is as follows

Service Name	FinancialExpensesAndIncomeForBalancingService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1790/<VersionNo>?APIKey=<APIKey>&Year=<Year>&Month=<Month>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1790/<VersionNo>?APIKey=<APIKey>&Year=<Year>&Month=<Month>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2014
Month	String		Yes	MM(01-12)	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Financial situation
Year	int		No	YYYY	2014
Month	int		No	MM(01-12)	1

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Financial Price Amount	String		No		661237.297
Price Direction	String		No	NA	Expenditure
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Unit Of Currency	String		No	NA	GBP
Document RevNum	String		No	NA	1

5.1.9 B1810 – CrossBorderBalancingVolumesOfExchangedBidsandOffers

API service details for the flow B1810 is as follows

Service Name	CrossBorderBalancingVolumesOfExchangedBidsandOffersService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1810/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1810/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data

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Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Acquiring Domain	String		No	NA	A01=EIC Code
Connecting Domain	String		No	NA	A01=EIC Code
Flow Direction	String		No	NA	Stable
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Quantity	String		No		121212.5
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

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5.1.10 B1820 – CrossBorderBalancingPrices

API service details for the flow B01820 is as follows

Service Name	CrossBorderBalancingPricesService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1820/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1820/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Acquiring Domain	String		No	NA	A01=EIC Code
Connecting Domain	String		No	NA	A01=EIC Code
Flow Direction	String		No	NA	Stable
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Min Price Amount	String		No		1000
Max Price Amount	String		No		999999

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Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.1.11 B1830 – CrossBorderBalancingEnergyActivated

API service details for the flow B01830 is as follows

Service Name	CrossBorderBalancingEnergyActivatedService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1830/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1830/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data

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Control Area	String		No	NA	London
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Business Type	String		No	NA	Frequency Containment Reserve
Acquiring Domain	String		No	NA	A01=EIC Code
Connecting Domain	String		No	NA	A01=EIC Code
Flow Direction	String		No	NA	Stable
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Secondary Quantity	String		No		1012112
Document Type	String		No	NA	System total load
Doc Status	String		No	NA	Intermediate
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

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5.2 API Generation Load Flow Details

5.2.1 B0610 – ActualTotalLoadPerBiddingZone

API service details for the flow B0610 is as follows

Service Name	ActualTotalLoadPerBiddingZoneService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0610/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0610/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Time Series ID	String		No	NA	101
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Quantity	String		No		200
Document Type	String		No	NA	System total load
Business Type	String		No	NA	Consumption
Process Type	String		No	NA	Realised
Object Aggregation	String		No	NA	Area
Resolution	String		No	NA	PT30M

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Curve Type	String		No	NA	Point
Unit of Measure	String		No	NA	Mega watt
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1
Secondary Quantity (MAW)	String		No		50

5.2.2 B0620 - DayAheadTotalLoadForecastPerBiddingZone

API service details for the flow B0620 is as follows

Service Name	DayAheadTotalLoadForecastPerBiddingZoneService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0620/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0620/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1

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Quantity	String		No		200
Document Type	String		No	NA	System total load
Business Type	String		No	NA	Consumption
Process Type	String		No	NA	Realised
Object Aggregation	String		No	NA	Area
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Unit of Measure	String		No	NA	Mega watt
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1
Secondary Quantity (MAW)	String		No		50

5.2.3 B0630 - WeekAheadTotalLoadForecastPerBiddingZone

API service details for the flow B0630 is as follows

Service Name	WeekAheadTotalLoadForecastPerBiddingZoneService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0630/<VersionNo>? APIKey=<APIKey>&Year=<Year>&Week=<Week>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0630/<VersionNo>? APIKey=<APIKey>&Year=<Year>&Week=<Week>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending), Date (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2014
Week	String		Yes	ww(01-52)	22
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					

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Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Consumption
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Date	Date		No	YYYY-MM-DD	07/05/2014
Quantity (MAW)	String		No		200
Week	int		No	NA	13
Secondary Quantity (MAW)	String		No		50
Document Type	String		No	NA	System total load
Year	int		No	NA	2014
Process Type	String		No	NA	Realised
Object Aggregation	String		No	NA	Area
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Unit of Measure	String		No	NA	Mega watt
Active Flag	String		No	NA	Y
Document RevNum	String		No	NA	2
Document Id	String		No	NA	NGET-EMFIP-ATL-401

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5.2.4 B0640 - MonthAheadTotalLoadForecastPerBiddingZone

API service details for the flow B0640 is as follows

Service Name	MonthAheadTotalLoadForecastPerBiddingZoneService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0640/<VersionNo>? APIKey=<APIKey>&Year=<Year>&Month=<Month>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0640/<VersionNo>? APIKey=<APIKey>&Year=<Year>&Month=<Month>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending), Week Commencing (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2014
Month	String		Yes	MM(01-12)	4
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Consumption
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No		200
Secondary Quantity (MAW)	String		No		50
Year	int		No	YYYY	2014
Month	String		No	MM(01-12)	4
Week Commencing (YYYY-MM-DD)	Date		No	YYYY-MM-DD	2014-01-25
Document Type	String		No	NA	System total load
Document RevNum	String		No	NA	2
Process Type	String		No	NA	Realised
Object Aggregation	String		No	NA	Area
Resolution	String		No	NA	PT30M

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Curve Type	String		No	NA	Point
Unit of Measure	String		No	NA	Mega watt
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401

5.2.5 B0650 - YearAheadTotalLoadForecastPerBiddingZone

API service details for the flow B0650 is as follows

Service Name	YearAheadTotalLoadForecastPerBiddingZoneService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0650/<VersionNo>? APIKey =< APIKey>&Year=<Year>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0650/<VersionNo>? APIKey =< APIKey>&Year=<Year>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Week (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2013
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Consumption
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No	NA	200
Secondary Quantity (MAW)	String		No		50
Year	int		No	YYYY	2013
Week	int		No		52
Document Type	String		No	NA	System total load

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Month Name	String		No	NA	
Process Type	String		No	NA	Realised
Object Aggregation	String		No	NA	Area
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Unit of Measure	String		No	NA	Mega watt
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.2.6 B0810 - YearAheadForecastMargin

API service details for the flow B0810 is as follows

Service Name	YearAheadForecastMarginService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0810/<VersionNo>? APIKey =< APIKey >&Year=<Year>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0810/<VersionNo>? APIKey =< APIKey >&Year=<Year>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2014
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Consumption
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No		200

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Secondary Quantity (MAW)	String		No		50
Year	int		No	YYYY	2014
Document Type	String		No	NA	System total load
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Unit of Measure	String		No	NA	Mega watt
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.2.7 B1410 - InstalledGenerationCapacityAggregated

API service details for the flow B1410 is as follows

Service Name	InstalledGenerationCapacityAggregatedService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1410/<VersionNo>? APIKey =< APIKey >&Year=<Year>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1410/<VersionNo>? APIKey =< APIKey >&Year=<Year>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2014
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					

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Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	double		No		200
Year	int		No	YYYY	2014
Power System Resource Type	String		No	NA	Generation
Document Type	String		No	NA	System total load
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
BusinessType	String		No	NA	Consumption
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.2.8 B1420 - InstalledGenerationCapacityPerUnit

API service details for the flow B1420 is as follows

Service Name	InstalledGenerationCapacityPerUnitService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1420/<VersionNo>? APIKey =< APIKey>&Year=<Year>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1420/<VersionNo>? APIKey =< APIKey>&Year=<Year>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	2014
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data

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Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Power System Resource Type	String		No	NA	Generation
Year	int		No	YYYY	2014
BM UNIT ID	String		No	NA	100
Registered Resource EIC Code	String		No	NA	10T-AL-GN-000112
Voltage limit	String		No		100
NGC BM UNIT ID	String		No	NA	200
Registered Resource Name	String		No	NA	BAGE-2
Document Type	String		No	NA	System total load
Business Type	String		No	NA	Consumption
Process Type	String		No	NA	Realised
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Nominal	String		No	NA	153.2
Implementation Date	String		No	NA	2014-12-20

5.2.9 B1430 - DayAheadAggregatedGeneration

API service details for the flow B1430 is as follows

Service Name	DayAheadAggregatedGenerationService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1430/<VersionNo>? APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1430/<VersionNo>? APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

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API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No		200
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Document Type	String		No	NA	System total load
Business Type	String		No	NA	Consumption
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

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5.2.10 B1440 - DayAheadGenerationforecastsForWindAndSolar

API service details for the flow B1440 is as follows

Service Name	DayAheadGenerationforecastsForWindAndSolarService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1440/<VersionNo>? APIKey =< APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1440/<VersionNo>? APIKey =< APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	double		No		200
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No		1
PSR Type	String		No	NA	Generation
Document Type	String		No	NA	System total load
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401

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Document RevNum	String		No	NA	1
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5.2.11 B1610 - ActualGenerationOutputPerGenerationUnit

API service details for the flow B1610 is as follows

Service Name	ActualGenerationOutputPerGenerationUnitService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1610/<VersionNo>? APIKey =< APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1610/<VersionNo>? APIKey =< APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No	NA	200
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
PSR Type	String		No	NA	Generation
Registered Resource EIC Code	String		No	NA	EIC2_A0001
Market Generation Unit EIC Code	String		No	NA	NG_Wales-Generation-121
Market Generation BM Unit	String		No	NA	NA
Market Generation NGC BM Unit	String		No	NA	NA

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BM Unit ID	String		No	NA	NA
NGC BM Unit ID	String		No	NA	NA
Document Type	String		No	NA	System total load
Business Type	String		No	NA	Consumption
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.2.12 B1620 - ActualAggregatedGenerationPerType

API service details for the flow B1620 is as follows

Service Name	ActualAggregatedGenerationPerTypeService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1620/<VersionNo>? APIKey =< APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1620/<VersionNo>? APIKey =< APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation

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Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No		200
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
PSR Type	String		No	NA	Generation
Document Type	String		No	NA	System total load
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

5.2.13 B1630 - ActualOrEstimatedWindAndSolarPowerGeneration

API service details for the flow B1630 is as follows

Service Name	ActualOrEstimatedWindAndSolarPowerGenerationService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1630/<VersionNo>? APIKey =< APIKey >&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1630/<VersionNo>? APIKey =< APIKey >&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml

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API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	double		No		200
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
PSR Type	String		No	NA	Generation
Document Type	String		No	NA	System total load
Process Type	String		No	NA	Realised
Resolution	String		No	NA	PT30M
Curve Type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	NGET-EMFIP-ATL-401
Document RevNum	String		No	NA	1

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5.3 API Transmission Network Flow Details

5.3.1 B0910 - ExpansionandDismantlingProjects

API service details for the flow B0910 is as follows

Service Name	ExpansionandDismantlingProjectsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0910/<VersionNo>? APIKey =< APIKey>&Year=<Year>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0910/<VersionNo>? APIKey =< APIKey>&Year=<Year>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	Int	-	Yes	YYYY	2014
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity	String		No		200
Asset Type	String		No	NA	Line
Reason Code	String		No	NA	Complementary Information
Reason Description	String		No	NA	Infrastructure End of Life
Location	String		No	NA	London
End Date	Date		No	NA	2014-12-31
BM UNIT Id	String		No	NA	NA
NGC BM Unit id	String		No	NA	NA
MRID(ASSET_EIC_CDE)	String		No	NA	mRID.12345678

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Doc Status	String		No	NA	Intermediate
Document Type	String		No	NA	Interconnection network expansion
Process Type	String		No	NA	Network information
Unit of Measure	String		No	NA	Meega Watt
resolution	String		No	NA	P1Y
Curve type	String		No	NA	Point
Active Flag	String		No	NA	Y
Document Id	String		No	NA	DEVUT-NGET-EMFIP-RST
Document Rev Num	String		No	NA	12
Year	int		No	NA	2014

5.3.2 B1320 - CongestionManagementMeasuresCountertrading

API service details for the flow B1320 is as follows

Service Name	CongestionManagementMeasuresCountertradingService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1320/<VersionNo>? APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1320/<VersionNo>? APIKey=<APIKey>&SettlementDate=<SettlementDate>&Period=<Period>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Settlement Date	String		Yes	YYYY-MM-DD	2014-12-31
Period	String		Yes	*/1-50	1
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data

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Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Quantity(MAW)	String		No		200
Settlement Date	Date		No	YYYY-MM-DD	2014-12-31
Settlement Period	int		No	*/1-50	1
Reason Code	String		No	NA	Complementary Information
Reason Description	String		No	NA	Infrastructure End of Life
Flow Direction	String		No	NA	up
Document Type	String		No	NA	Counter trade notice
Process Type	String		No	NA	Realised
Doc Status	String		No	NA	Intermediate
resolution	String		No	NA	PT30M
Curve type	String		No	NA	Sequential fixed size block
Active Flag	String		No	NA	N
Document Id	String		No	NA	DEVUT-NGET-EMFIP-RST
Document Rev Num	String		No	NA	2

5.3.3 B1330 - CongestionManagementMeasuresCostsOfCongestionManagement

API service details for the flow B1330 is as follows

Service Name	CongestionManagementMeasuresCostsOfCongestionManagementService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1330/<VersionNo>? APIKey=<APIKey>&Year=<Year>&Month=<Month>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1330/<VersionNo>? APIKey=<APIKey>&Year=<Year>&Month=<Month>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)
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Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Year	String		Yes	YYYY	1905-07-06
Month	String		Yes	MM	11
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Congestion Price(GBP)	String		No		20012
Year	String		No	YYYY	2014
Month	String		No	MM	Mar
Reason Code	String		No	NA	Complementary Information
Reason Description	String		No	NA	Infrastructure End of Life
Document Type	String		No	NA	Congestion costs
Process Type	String		No	NA	Realised
Doc Status	String		No	NA	Intermediate
resolution	String		No	NA	P1M
business type	String		No	NA	Congestion costs
Active Flag	String		No	NA	N
Document Id	String		No	NA	DEVUT-NGET-EMFIP-Testingxx
Document Rev Num	String		No	NA	8

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5.4 API Outage Flow Details

5.4.1 B0710 - PlannedUnavailabilityOfConsumptionUnits

API service details for the flow B0710 is as follows

Service Name	PlannedUnavailabilityOfConsumptionUnitsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0710/<VersionNo>? StartDate =< StartDate >& EndTime =< EndTime >& StartTime =< StartTime >& APIKey=< APIKey > & EndDate =< EndDate >&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0710/<VersionNo>? StartDate =< StartDate >& EndTime =< EndTime >& StartTime =< StartTime >& APIKey=< APIKey > & EndDate =< EndDate >&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Quantity	String		No		200

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Reason Code	String		No	NA	shutdown
Reason Description	String		No	NA	shut down for Maintenance
Document Type	String		No	NA	Load unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-PUCU-00001
Document Rev Num	String		No	NA	2
BM UNIT Id	String		No	NA	NA
AssestEICCode	String		No	NA	registered.12345
NGC BM Unit id	String		No	NA	NA

5.4.2 B0720 - ChangesInActualAvailabilityOfConsumptionUnits

API service details for the flow B0720 is as follows

Service Name	ChangesInActualAvailabilityOfConsumptionUnitsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B0720/<VersionNo>?StartDate=<StartDate>&EndTime=<EndTime>&StartTime=<StartTime>&APIKey=<APIKey>&EndDate=<EndDate>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B0720/<VersionNo>?StartDate=<StartDate>&EndTime=<EndTime>&StartTime=<StartTime>&APIKey=<APIKey>&EndDate=<EndDate>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
End date	String		Yes	YYYY-MM-DD	2014-12-31

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EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	shutdown
Reason Description	String		No	NA	shut down for Maintenance
Quantity	String		No		200
Document Type	String		No	NA	Load unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	NA
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-PUCU-00001
Document Rev Num	String		No	NA	2
Assest BM UNIT Id	String		No	NA	NA
AssestEICCode	String		No	NA	registered.12345
NGC BM Unit id	String		No	NA	NA

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5.4.3 B1010 - PlannedUnavailabilityInTheTransmissionGrid

API service details for the flow B1010 is as follows

Service Name	PlannedUnavailabilityInTheTransmissionGridService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1010/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndTime=<EndTime>&StartTime=<StartTime>&EndDate=<EndDate>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1010/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndTime=<EndTime>&StartTime=<StartTime>&EndDate=<EndDate>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	shutdown
Reason Description	String		No	NA	shut down for Maintenance
Asset EIC Code	String		No	NA	EIC_A001
BM Unit Id	String		No	NA	NA

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NGC BU Unit ID	String		No	NA	NA
Asset Type	String		No	NA	Line
Name	String		No	NA	NG -Wales_Line-L121
location	String		No	NA	London
Quantity	String		No		200
Document Type	String		No	NA	Transmission unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	NA
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-PUCU-00001
Document Rev Num	String		No	NA	1

5.4.4 B1020 - ChangesInActualAvailabilityInTheTransmissionGrid

API service details for the flow B1020 is as follows

Service Name	ChangesInActualAvailabilityInTheTransmissionGridService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1020/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1020/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ

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EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	shutdown
Reason Description	String		No	NA	shut down for Maintenance
Quantity	String		No		200
Asset EIC Code	String		No	NA	EIC_A001
BM Unit Id	String		No	NA	NA
NGC BU Unit ID	String		No	NA	NA
Asset Type	String		No	NA	Line
Name	String		No	NA	NG -Wales_Line-L121
location	String		No	NA	London
Document Type	String		No	NA	Transmission unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	NA
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-PUCU-00001
Document Rev Num	String		No	NA	1

5.4.5 B1030 - ChangesInActualAvailabilityOfOffShoreGridInfrastructure

API service details for the flow B1030 is as follows

Service Name	ChangesInActualAvailabilityOfOffShoreGridInfrastructureService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1030/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1030/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>
Output Format	XML/CSV

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Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	shutdown
Reason Description	String		No	NA	shut down for Maintenance
Quantity	String		No		200
Active Power	String		No		50
Asset EIC Code	String		No	NA	EIC_A001
BM Unit Id	String		No	NA	NA
NGC BU Unit ID	String		No	NA	NA
Name	String		No	NA	NG -Wales_Line-L121
location	String		No	NA	London
Document Type	String		No	NA	Generation unavailability
Process Type	String		No	NA	Outage information

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Doc Status	String		No	NA	NA
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-PUCU-00001
Document Rev Num	String		No	NA	1

5.4.6 B1510 - PlannedUnavailabilityOfGenerationUnits

API service details for the flow B1510 is as follows

Service Name	PlannedUnavailabilityOfGenerationUnitsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1510/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1510/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31

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Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	shutdown
Reason Description	String		No	NA	shutdown for Maintenance
Prod Registered Resource Active power	String		No	NA	500
BM Unit Id	String		No	NA	NA
NGC BU Unit ID	String		No	NA	NA
Quantity	String		No		200
Prod Registered Resource EIC CODE	String		No	NA	10T-AL-WS-00015
Prod Registered Resource PSR name	String		No	NA	NG-Wales-Gen-G121
Prod Registered Resource type	String		No	NA	Generation
Prod Registered Resource location	String		No	NA	London
Document Type	String		No	NA	Production unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	Intermediate
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-AAPU-00001t1
Document Rev Num	String		No	NA	2
PSR EIC Code	String		No	NA	BMUnitEIC
PSR NGC BM Unit ID	String		No	NA	T_COTPS-1
PSR BM Unit ID	String		No	NA	COTPS-1
PSR Name	String		No	NA	BMUnitEIC.name

5.4.7 B1520 - ChangesInActualAvailabilityOfGenerationUnits

API service details for the flow B1520 is as follows

Service Name	ChangesInActualAvailabilityOfGenerationUnitsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1520/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1520/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameter. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed response with proper message and HTTP code is sent back. 4. API Key is retrieved and validated against the database whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made based on the input query parameters to fetch the data. 6. Transformation of the data to XML will be done based on the request.

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Comments

1. All the fields are Varchar data type at Database; hence we have assumed the field type has String.
2. Default sorting will be used by mule to sort the retrieve data.

Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Quantity(MAW)	String		No	dddd	200
Prod Registered Resource EIC Code	String		No	NA	10T-AL-WS-00015
Prod Registered Resource name	String		No	NA	NG-Wales-Gen-G121
Prod Registered Resource location	String		No	NA	London
Reason Code	String		No	NA	Complementary Information
Reason Description	String		No	NA	Infrastructure End of Life
Prod Registered Resource Active	String		No	NA	50
Prod Registered Resource type	String		No	NA	Generation
Prod Registered PSR EIC Code	String		No	NA	BMUnitEIC1234
Document Type	String		No	NA	Generation unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	Intermediate
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-AAGTYU
Document Rev Num	String		No	NA	2

5.4.8 B1530 - ChangesInActualAvailabilityOfProductionUnits

API service details for the flow B1530 is as follows

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Service Name	postPlannedUnavailabilityOfProductionUnitsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1530/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1530/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It's a RESTful Web Service GET method which will receive API key, version number and request data as query parameter. 2. Retrieves and validate the API Key with database whether it is active or not, if not return the response with proper message with HTTP code. 3. Retrieves the version number from request and check whether it is active or not, if not return the response with proper message with HTTP code. 4. Retrieves the request parameter and Database call will be made using the select query to fetch the data. 5. Then Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation
Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	Complementary Information
Reason Description	String		No	NA	Infrastructure End of Life
Quantity(MAW)	String		No		200
Prod Registered Resource EIC Code	String		No	NA	10T-AL-WS-00015
Prod Registered Resource name	String		No	NA	NG-Wales-Gen-G121
Prod Registered Resource location	String		No	NA	London

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Active power	String		No		500
Document Type	String		No	NA	Generation unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	Intermediate
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-AAGTYU
Document Rev Num	String		No	NA	2

5.4.9 B1540 - ChangesInActualAvailabilityOfProductionUnits

API service details for the flow B1540 is as follows

Service Name	ChangesInActualAvailabilityOfProductionUnitsService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/B1540/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>">https://<host>:<port>/BMRS/B1540/<VersionNo>?APIKey=<APIKey>&StartDate=<StartDate>&EndDate=<EndDate>&StartTime=<StartTime>&EndTime=<EndTime>&ServiceType=<xml/csv>
Output Format	XML/CSV
Description	1. It's a RESTful Web Service GET method which will receive API key, version number and request data as query parameter. 2. Retrieves and validate the API Key with database whether it is active or not, if not return the response with proper message with HTTP code. 3. Retrieves the version number from request and check whether it is active or not, if not return the response with proper message with HTTP code. 4. Retrieves the request parameter and Database call will be made using the select query to fetch the data. 5. Then Transformation of the data to XML will be done based on the request.
Comments	1. All the fields are Varchar data type at Database; hence we have assumed the field type has String. 2. Default sorting will be used by mule to sort the retrieve data. Default Sorting: Time Series ID (Descending)

API Web service – Request and Response format details:

API Web service – Request (from Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
APIKey	String		Yes	NA	AP8DA23
Start date	String		Yes	YYYY-MM-DD	2014-12-31
End date	String		Yes	YYYY-MM-DD	2014-12-31
StartTime	String		Yes	mm:hh:ss ZZ	14:00:00 ZZ
EndTime	String		Yes	mm:hh:ss ZZ	15:00:00 ZZ
Service Type	String		No	NA	csv/xml
API Web service – Response (for Drupal/Third party system)					
Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Business Type	String		No	NA	Solar Generation

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Time Series ID	String		No	NA	NGET-EMFIP-ATL-0002
Start Date	Date		No	YYYY-MM-DD	2014-12-31
End Date	Date		No	YYYY-MM-DD	2014-12-31
Start Time	Date		No	mm:hh:ss ZZ	14:00:00 ZZ
End Time	Date		No	mm:hh:ss ZZ	15:00:00 ZZ
Reason Code	String		No	NA	Complementary Information
Reason Description	String		No	NA	Infrastructure End of Life
Quantity(MAW)	String		No		200
Prod Registered Resource EIC Code	String		No	NA	10T-AL-WS-00015
Prod Registered Resource name	String		No	NA	NG-Wales-Gen-G121
Prod Registered Resource location	String		No	NA	London
Active power	String		No		500
Document Type	String		No	NA	Production unavailability
Process Type	String		No	NA	Outage information
Doc Status	String		No	NA	Intermediate
Active Flag	String		No	NA	N
Document Id	String		No	NA	NGET-AAPU-00001t1
Document Rev Num	String		No	NA	2

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5.5 API REMIT Flow Details

5.5.1 P291 - MessageListRetrieval

API service details for P291 Message List Retrieval is as follows

Service Name	MessageListRetrievalService
Method	GET
Input URL	1. URL with event(EventStart and EventEnd) details mentioned with basic filter: <a href="https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?EventEnd=<EventEnd>&ServiceType=<xml/csv>&EventStart=<EventStart>&APIKey=<APIKey>">https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?EventEnd=<EventEnd>&ServiceType=<xml/csv>&EventStart=<EventStart>&APIKey=<APIKey> 2. URL with publication(PublicationFrom and PublicationTo) details mentioned with basic filter: <a href="https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?PublicationTo=<PublicationTo>&ServiceType=<xml/csv>&APIKey=<APIKey>&PublicationFrom=<PublicationFrom>">https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?PublicationTo=<PublicationTo>&ServiceType=<xml/csv>&APIKey=<APIKey>&PublicationFrom=<PublicationFrom> 3. URL with event(EventStart and EventEnd) details mentioned with advance filter option: <a href="https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?AffectedUnitID=<AffectedUnitID>&EventEnd=<EventEnd>&ServiceType=<xml/csv>&EventStart=<EventStart>&APIKey=<APIKey>&ParticipantId=<ParticipantId>&MessageID=<MessageID>&EventType=<EventType>&FuelType=<FuelType>">https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?AffectedUnitID=<AffectedUnitID>&EventEnd=<EventEnd>&ServiceType=<xml/csv>&EventStart=<EventStart>&APIKey=<APIKey>&ParticipantId=<ParticipantId>&MessageID=<MessageID>&EventType=<EventType>&FuelType=<FuelType> 4. URL with publication(PublicationFrom and PublicationTo) details mentioned with advance filter option: <a href="https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?AffectedUnitID=<AffectedUnitID>&PublicationTo=<PublicationTo>&ServiceType=<xml/csv>&APIKey=<APIKey>&ParticipantId=<ParticipantId>&PublicationFrom=<PublicationFrom>&MessageID=<MessageID>&EventType=<EventType>&FuelType=<FuelType>&AssetID=<AssetID>">https://<host>:<port>/BMRS/MessageListRetrieval/<VersionNo>?AffectedUnitID=<AffectedUnitID>&PublicationTo=<PublicationTo>&ServiceType=<xml/csv>&APIKey=<APIKey>&ParticipantId=<ParticipantId>&PublicationFrom=<PublicationFrom>&MessageID=<MessageID>&EventType=<EventType>&FuelType=<FuelType>&AssetID=<AssetID> Note: Different urls are possible for this service by including optional parameters.
Output Format	XML
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameters. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. The supported version details and the version lifecycle will be maintained in the database. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed proper message with HTTP code will be sent back as response. 4. API Key is retrieved and validated against the DB whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Database calls will be made using the select query based on the input query parameter to fetch the data. 6. All active records are fetched on the basis of mandatory parameters EventStart and EventEnd or PublicationFrom and PublicationTo along with the optional parameters(AffectedUnitID, ParticipantId, MessageID, FuelType, EventType,AssetId) for which AND condition will be applied. 7. ParticipantId is fetched based on complete or Partial value given in request.(Ex: %name%)

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8. "Events In Progress" will be fetched based on the following conditions:
 - Event Start DateTime is in between "From DateTime" and "To DateTime" OR
 - Event End DateTime is in between "From DateTime" and "To DateTime" OR
 - Event Start DateTime is Before "From DateTime" AND Event End Date time is After "To DateTime")

API Web service – Request and Response format details:

API Web service - Request				
Field Name	Field Type	Remarks	Mandatory	Sample data
Affected Unit Id	String		No	Asset1234
Service Type	String		No	xml/csv
API Key	String		Yes	AP8DA123
Participant Id	String		No	UMM-01-01212
PublicationFrom	String		No	2014-12-31
PublicationTo	String		No	2014-12-31
EventStart*	String		No	2001-12-31
EventEnd*	String		No	2001-12-31
Message Id	String		No	ELXP-RMT-Remit_FinalACK
Event Type	String		No	Planned Outage
Asset Id	String		No	Asset1234
Fuel Type	String		No	CCGT
API Web service - Response				
Field Name	Field Type	Remarks	Mandatory	Sample data
Participant Id	String		No	T_PSEGEN1
Message Id	String		No	101
Message Heading	String		No	EXAMGEN-1
Sequence Id	Int		No	2
Asset Id	String		No	T_PSEGEN6
Asset EIC Code	String		No	10T-AL-WS-000101
Asset Type	String		No	Production
Affected Unit	String		No	G32
Affected Area	String		No	B6
Published DateTime	String		No	2014-03-18 14:00:00Z
Asset Fuel Type	String		No	COAL
Asset Normal Capacity	String		No	30.45
Event Type	String		No	FAILURE
Available Capacity	String		No	10.7
Event Status	String		No	CANCELLED
Duration Uncertainty	String		No	a day extra
Cause	String		No	Active
Related Information	String		No	Successful

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Revision Number	String		No	2
Event start	String		No	2001-12-31 12:00:00Z
Event end	String		No	2001-12-31 15:00:00Z
Active Flag	String		No	Y

* applicable only for Elexon portal

Note: Either Publication details(PublicationFrom and PublicationTo) or Event details(EventStart and EventEnd) should be given in request. If both are not present in request proper message with HTTP code will be sent back as response.

5.5.2 P291 - MessageDetailRetrieval

API service details for P291 Message Detail Retrieval is as follows

Service Name	MessageDetailRetrievalService
Method	GET
Input URL	1.URL with message id and participant id mentioned <a href="https://<host>:<port>/BMRS/MessageDetailRetrieval/<VersionNo>?ServiceType=<ServiceType>&APIKey=<APIKey>&MessageId=<MessageId>&ParticipantId=<ParticipantId>">https://<host>:<port>/BMRS/MessageDetailRetrieval/<VersionNo>?ServiceType=<ServiceType>&APIKey=<APIKey>&MessageId=<MessageId>&ParticipantId=<ParticipantId> 2.URL with message id ,participant id,active flag mentioned <a href="https://<host>:<port>/BMRS/MessageDetailRetrieval/<VersionNo>?ServiceType=<ServiceType>&APIKey=<APIKey>&MessageId=<MessageId>&ParticipantId=<ParticipantId>&ActiveFlag=<ActiveFlag>">https://<host>:<port>/BMRS/MessageDetailRetrieval/<VersionNo>?ServiceType=<ServiceType>&APIKey=<APIKey>&MessageId=<MessageId>&ParticipantId=<ParticipantId>&ActiveFlag=<ActiveFlag> 3.URL with message id, sequence id, Participant id mentioned <a href="https://<host>:<port>/BMRS/MessageDetailRetrieval/<VersionNo>?ServiceType=<ServiceType>&APIKey=<APIKey>&ParticipantId=<ParticipantId>&SequenceId=<SequenceId>&MessageId=<MessageId>">https://<host>:<port>/BMRS/MessageDetailRetrieval/<VersionNo>?ServiceType=<ServiceType>&APIKey=<APIKey>&ParticipantId=<ParticipantId>&SequenceId=<SequenceId>&MessageId=<MessageId>
Output Format	XML
Description	1. It is a RESTful Web Service with GET method which will receive API key, version number and request data as query parameters. 2. In the Service Implementation, based on the version, it is routed to different mule flows only if the version is active. Version validation is done against a Database table. 3. Mandatory fields from the query parameters are retrieved and NULL check and field format validation is done. If the validation is failed,proper message with HTTP code will be sent back as response. 4. API Key is retrieved and validated against the DB whether it is active or not, if not proper message with HTTP code will be sent back as response. 5. Active Flag is validated with valid parameters like ('Y/y','N/n',null). If the validation is failed proper message with HTTP code will be sent back as response. 6. Database calls will be made based on the input query parameters to fetch the data. 7. Transformation of the data to XML will be done based on the request. 8. When the request consists of MessageID, ParticipantID with ActiveFlag as null then

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all the active and inactive records will be sent in the response. If the request consists of MessageID, ParticipantID with ActiveFlag as ('Y','y') then all the active records will be sent in the response and if ActiveFlag is ('N','n') then all the inactive records will be sent in the response.

API Web service – Request and Response format details:

API Web service - Request				
Field Name	Field Type	Remarks	Mandatory	Sample data
APIKey	String		Yes	AP8DA23
Service Type	String		No	xml/csv
Participant Id	String		Yes	UMM-01-01212
Sequence Id	String		No	2
Message Id	String		Yes	101
Active Flag	String		No	Y
API Web service - Response				
Field Name	Field Type	Remarks	Mandatory	Sample data
Participant Id	String		No	UMM-01-01212
Asset Id	String		No	T_PSEGEN1
Sequence Id	Int		No	2
Message Id	String		No	101
Message Heading	String		No	EXAMGEN-1
Published DateTime	String		No	2014-03-18 14:00:00Z
Event Type	String		No	FAILURE
Asset EIC Code	String		No	10T-AL-WS-000101
Asset Id	String		No	Asset1234
Asset Type	String		No	Production
Affected Unit	String		No	G32
Affected Area	String		No	B6
Asset Fuel Type	String		No	COAL
Asset Normal Capacity	String		No	30.45
Event Status	String		No	CANCELLED
Event Start	String		No	2014-03-20 13:00:00Z
Event End	String		No	2014-03-20 13:30:00Z
Available Capacity	String		No	4.56
Duration Uncertainty	String		No	a day extra
Cause	String		No	Planned Outage
Active Flag	String		No	Y
Related Information	String		No	Planned outage for routine maintenance
Revision Number	String		No	001

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6 Existing BMRS Data (Phase 2) – API Detail

6.1.1 TEMPERATURE DATA

API service details for the flow is as follows

Service Name	temperatureDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/TEMP/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/TEMP/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	Default Sorting: Spot Time (Ascending) Input data flow : TEMP, REFTMP
Comments	Default Value (if non specified): From Date = Current System Date – 3 months (configurable) ,To Date = Current System Date (i.e. Today)

API Web service – Request and Response format details:

API Webservice – Request - Temperature Data

Logical Field Name	Field Type	Mandatory	Format	Sample data
ApiKey	String	Yes	-	AP8DA23
From Date	String	No	YYYY-MM-DD	2014-12-31
To Date	String	No	YYYY-MM-DD	2014-12-31
Service Type	String	No	-	csv/CSV/xml/XML

API Webservice – Response - Temperature Data

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "TEMPERATURE DATA"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample values
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Record Type	String	-	No	TEMP	Fixed string value "TEMP"
Spot (Date)Time	Date	-	No	YYYY-MM-DD	2014-10-13
Temperature Out-Turn	Double	-	No	-	9.5
Normal Reference Temperature	Double	-	No	-	9.6
Low Reference Temperature	Double	-	No	-	12.5
High Reference Temperature	Double	-	No	-	12.5
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample values
Record Type	String	-	No	TEMP	Fixed string value "TEMP"
Spot (Date)Time	Date	-	No	YYYYMMDD	20141013
Temperature Out-Turn	Double	-	No	-	9.5
Normal Reference Temperature	Double	-	No	-	9.6
Low Reference Temperature	Double	-	No	-	12.5
High Reference Temperature	Double	-	No	-	12.5

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File:

HDR,TEMPERATURE DATA

TEMP,20081011,18.3,17.2,12.3,22.4

FTR,1

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6.1.2 PEAK WIND GENERATION FORECAST

API service details for the flow is as follows

Service Name	peakWindGenerationForecastService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/WINDFORPK/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/WINDFORPK/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Date (Ascending) 2. Input data flow : WINDFOR
Comments	1. Default Value (if non specified): From Date = Current System Date (i.e. Today) To Date = Current System Date + 1 (i.e Tomorrow)

API Web service – Request and Response format details:

API Webservice – Request - Peak Wind Generation Forecast

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2014-10-10
To Date	String	-	No	YYYY-MM-DD	2014-10-10
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Peak Wind Generation Forecast

Header Record

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "PEAK WIND GENERATION FORECAST"

Body Record

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
RecordType	String	-	No	-	WINDFORPK
Day & Date	Date	-	No	1.1.1.1 YYYY-MM-DD	2014-10-10
Time of Maximum Wind Generation	Date	-	No	1.1.1.2 HH:MM	14:00
Peak (Max) MW	Integer	-	No	-	123
Total Metered Capacity (MW)	Integer	-	No	-	456

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Data Last updated	Date	-	No	1.1.1.3 YYYY-MM-DD HH:MM	2014-10-1010:10
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
RecordType	String	-	No	-	WINDFORPK
Day & Date	Date	-	No	1.1.1.4 YYYYMMDD	20141212
Time of Maximum Wind Generation	Date	-	No	1.1.1.5 HHMM	1400
Peak (Max) MW	Integer	-	No	1.1.1.6 -	123
Total Metered Capacity (MW)	Integer	-	No	1.1.1.7 -	456
Data Last updated	Date	-	No	1.1.1.8 YYYYMMDD HHMM	201410101010

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File:

HDR, PEAK WIND GENERATION FORECAST
WINDFORPK,20140726,2100,697,1333,201407260430
FTR,1

6.1.3 WIND GENERATION FORECAST AND OUT-TURN DATA

API service details for the flow is as follows

Service Name	windForecastOutTurnService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/WINDFORFUELHH/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/WINDFORFUELHH/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Date (Ascending), Settlement Period (Ascending) 2. Input data flow : WINDFOR, FUELHH

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Comments	1. If data for a column not available for a row, it is displayed as "NULL" 2. Default Value (if none specified): From Date = Current System Date - 1 , To Date = Current System Date +1
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API Web service – Request and Response format details:

API Webservice – Request -Wind Forecast Out-turn

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2014-12-31
To Date	String	-	No	YYYY-MM-DD	2014-12-31
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Wind Forecast Out-turn

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "WIND GENERATION FORECAST AND OUTTURN DATA"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed String "WIND"
Settlement Date	Date	-	No	YYYY-MM-DD	2014-07-29
Settlement Period	Integer	-	No	-	1
Publication Time (Initial Forecast)	String	-	No	YYYY-MM-DD HH:MM:SS	2008-04-27 17:00:00
Initial forecast Generation (MW)	String	-	No	-	-
Publication Time (Latest Forecast)	String	-	No	YYYY-MM-DD HH:MM:SS	2008-04-27 17:00:00
Latest forecast Generation (MW)	String	-	No	-	-
Publication Time (Out-turn)	String	-	No	YYYY-MM-DD HH:MM:SS	2008-04-27 17:00:00
Outturn Generation (MW)	String	-	No	-	-
Active Flag	String	-	No	-	Y

CSV Download Service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed String "WIND"
Settlement Date	Date	-	No	YYYYMMDD	20140729
Settlement Period	Integer	-	No	-	1
Publication Time (Initial Forecast)	String	-	No	YYYYMMDDHHMMSS	20080427170000

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Initial forecast Generation (MW)	String	-	No	-	-
Publication Time (Latest Forecast)	String	-	No	YYYYMMDDHHMMSS	20080427170000
Final forecast Generation (MW)	String	-	No	-	-
Publication Time (Out-turn)	String	-	No	YYYYMMDDHHMMSS	20080427170000
Outturn Generation (MW)	String	-	No	-	-

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File:

HDR,WIND GENERATION FORECAST AND OUTTURN DATA

WIND,20080429,1,20080427170000,1001,20080428170000,1011,20080429003500,1221

WIND,20080429,11,20080427170000,1147,20080428170000,1157,20080429053500,1221

WIND,20080429,17,20080427170000,1205,20080428170000,1200,20080429083500,1221

FTR,3

6.1.4 GENERATION BY FUEL TYPE (CURRENT)

API service details for the flow is as follows

Service Name	generationByFuelTypeCurrentService
Method	GET
Input URL	https://<host>:<port>/BMRS/FUELINSTHHCUR/<VersionNo>?APIKey=<APIKey>&FuelType=<FuelType>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: GB Generating Plant (Ascending) 2. Input data flow : FUELINST , FUELHH
Comments	1. If no value is specified for fuel type then it will imply all Fuel Types 2. Any value from "Fuel Type Set" (Ref: IDD Valid Sets) 3. All negative values are capped to zero. 4. INT which implies interconnectors (INTFR OR INTIRL OR INTNED OR INTEW)

API Web service – Request and Response format details:

API Webservice – Request - Generation By Fuel Type (Current)

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
FuelType	String	-	No	-	COAL

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Service Type	String	-	No	-	xml/XML/csv/CSV
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API Webservice – Request - Generation By Fuel Type (Current)

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "GENERATION BY FUEL TYPE (CURRENT)"

API Webservice – Request - Generation By Fuel Type (Current)

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
RecordType	String	-	No	-	FUELINSTHHCUR
GB Generating Plant	String	-	No	-	CCGT
Current MW	Integer	-	No	-	12472
Current %age	Double	-	No	-	39.2
Current Total MW	Integer	-	No	-	31854
Current Total %	Double	-	No	1.1.1.9 -	100
Last Half Hour	Date	-	No	1.1.1.10 YYYY-MM-DD HH:MM:SS	2014-07-29 13:00:00
Last Half Hour MW	Integer	-	No	1.1.1.11 -	12522
Last Half Hour %age	Double	-	No	1.1.1.12 -	39.3
Last Half Hour Total MW	Integer	-	No	-	31825
Last Half Hour Total %	Double	-	No	1.1.1.13 -	100
Last 24 Hours	Date	-	No	1.1.1.14 YYYY-MM-DD HH:MM:SS	2014-07-29 13:00:00
Last 24 Hours MW	Integer	-	No	1.1.1.15 -	273320
Last 24 Hours %age	Double	-	No	1.1.1.16 -	37.3
Last 24 Hours Total MW	Integer	-	No	1.1.1.17 -	733475
Last 24 Hours Total %	Double	-	No	1.1.1.18 -	100
Data Last Updated	Date	-	No	1.1.1.19 YYYY-MM-DD HH:MM:SS	2014-07-29 13:00:00
Active Flag	String	-	No	-	Y

CSV Download Records :

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Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
RecordType	String	-	No	-	FUELINSTHHCUR
GB Generating Plant	String	-	No	-	CCGT
Current MW	Integer	-	No	-	12472
Current %age	Decimal	-	No	-	39.2
Current Total MW	Integer	-	No	-	31854
Current Total %	Decimal	-	No	-	100
Last Half Hour	Date	-	No	1.1.1.20 YYYYMMDDHHMMSS	20140729130000
Last Half Hour MW	Integer	-	No	1.1.1.21 -	12522
Last Half Hour %age	Decimal	-	No	1.1.1.22 -	39.3
Last Half Hour Total MW	Integer	-	No	1.1.1.23 -	31825
Last Half Hour Total %	Decimal	-	No	1.1.1.24 -	100
Last 24 Hours	Date	-	No	1.1.1.25 YYYYMMDDHHMMSS	20140729130000
Last 24 Hours MW	Integer	-	No	1.1.1.26 -	273320
Last 24 Hours %age	Decimal	-	No	1.1.1.27 -	37.3
Last 24 Hours Total MW	Integer	-	No	1.1.1.28 -	733475
Last 24 Hours Total %	Decimal	-	No	1.1.1.29 -	100
Data Last Updated	Date	-	No	1.1.1.30 YYYYMMDDHHMMSS	20140729130010

Example File:

HDR,GENERATION BY FUEL TYPE CURRENT

FUELINSTHHCUR,CCGT,1523,96.9,153,100.0,20141202131502,145,93.9,786,100.0,20141212140002,486,17.9,475,100.0,Y,20141214150000

FUELINSTHHCUR,COAL,78954,78.6,954,100.0,20141102131502,354,96.3,516,100.0,20141112140002,954,82.7,127,100.0Y,20141216150000

FTR,2

6.1.5 GENERATION BY FUEL TYPE (24H INSTANT DATA)

API service details for the flow is as follows

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Service Name	generationByFuelType24HInstantDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/FUELINST/<VersionNo>?APIKey=<APIKey>&FromDateTime=<FromDateTime>&ToDateTime=<ToDateTime>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/FUELINST/<VersionNo>?APIKey=<APIKey>&FromDateTime=<FromDateTime>&ToDateTime=<ToDateTime>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : FUELINST
Comments	1. Default Value (if non specified): From DateTime = Current System DateTime – 24 Hr (configurable), To DateTime = Current System DateTime

API Web service – Request and Response format details:

API Webservice – Request - Generation By Fuel Type (24H Instant Data)

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From DateTime	String	-	No	YYYY-MM-DD HH:MM:SS	2014-07-29 13:00:00
To DateTime	String	-	No	YYYY-MM-DD HH:MM:SS	2014-07-29 13:00:00
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Generation By Fuel Type (24H Instant Data)

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "INSTANTANEOUS GENERATION BY FUEL TYPE DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "FUELINST"
Settlement Date	Date	-	No	1.1.1.31 YYYY-MM-DD	2014-12-12
Settlement Period	Integer	-	No	1.1.1.32 -	43
Spot Time	Date	-	No	1.1.1.33 YYYY-MM-DD HH:MM:SS	2008-04-28 17:05:03
CCGT	Integer	-	No	1.1.1.34 -	12032
OIL	Integer	-	No	-	12032
COAL	Integer	-	No	-	12032

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NUCLEAR	Integer	-	No	-	12032
WIND	Integer	-	No	-	12032
PS	Integer	-	No	-	12032
NPSHYD	Integer	-	No	-	12032
OCGT	Integer	-	No	-	12032
OTHER	Integer	-	No	-	12032
INTFR	Integer	-	No	-	12032
INTIRL	Integer	-	No	-	12032
INTNED	Integer	-	No	-	12032
INTEW	Integer	-	No	-	12032
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "FUELINST"
Settlement Date	Date	-	No	1.1.1.35 YYYYMMDD	20080428
Settlement Period	Integer	-	No	1.1.1.36 -	43
Spot Time	Date	-	No	1.1.1.37 YYYYMMDDH HMMSS	20080428170503
CCGT	Integer	-	No	-	12032
OIL	Integer	-	No	-	12032
COAL	Integer	-	No	-	12032
NUCLEAR	Integer	-	No	-	12032
WIND	Integer	-	No	-	12032
PS	Integer	-	No	-	12032
NPSHYD	Integer	-	No	-	12032
OCGT	Integer	-	No	-	12032
OTHER	Integer	-	No	-	12032
INTFR	Integer	-	No	-	12032
INTIRL	Integer	-	No	-	12032
INTNED	Integer	-	No	-	12032
INTEW	Integer	-	No	-	12032

Note:

- Also note that, even in cases where 'FromDateTime' and 'ToDateTime' are defined as optional with default values, either both should be absent or both have to be present.
- FromDateime should not be greater than ToDateime. If so exception is thrown with appropriate Message.

Example File:

HDR, INSTANTANEOUS GENERATION BY FUEL TYPE DATA

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FUELINST,20080428,37,20080428170503,18137,1850,0,15315,7308,189,15,15,0,55,152,21,22

FUELINST,20080428,37,20080428171007,18134,1849,0,15312,7307,181,16,14,0,52,150,13,17

FTR,2

6.1.6 HALF HOURLY OUTTURN GENERATION BY FUEL TYPE

API service details for the flow is as follows

Service Name	halfHourlyOutTurnGenerationByFuelTypeService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/FUELHH/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/FUELHH/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : FUELHH
Comments	Default Value (if none specified): From Date = Current System Date – 1 (i.e. Yesterday), To Date = Current System Date (i.e. Today)

API Web service – Request and Response format details:

API Webservice – Request - Half Hourly Outturn Generation By Fuel Type Data

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2014-12-31
To Date	String	-	No	YYYY-MM-DD	2014-12-31
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Half Hourly Outturn Generation By Fuel Type Data

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "HALF HOURLY OUTTURN GENERATION BY FUEL TYPE DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "FUELHH"
Settlement Date	Date	-	No	1.1.1.38 YYYY-MM-DD	2014-12-12

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Settlement Period	Integer	-	No	-	43
CCGT	Integer	-	No	-	12032
OIL	Integer	-	No	-	12032
COAL	Integer	-	No	-	12032
NUCLEAR	Integer	-	No	-	12032
WIND	Integer	-	No	-	12032
PS	Integer	-	No	-	12032
NPSHYD	Integer	-	No	-	12032
OCGT	Integer	-	No	-	12032
OTHER	Integer	-	No	-	12032
INTFR	Integer	-	No	-	12032
INTIRL	Integer	-	No	-	12032
INTNED	Integer	-	No	-	12032
INTEW	Integer	-	No	-	12032
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	NO	-	Fixed string value "FUELHH"
Settlement Date	Date	-	NO	1.1.1.39 YYYYMMDD	20080428
Settlement Period	Integer	-	NO	-	43
CCGT	Integer	-	NO	-	12032
OIL	Integer	-	NO	-	12032
COAL	Integer	-	NO	-	12032
NUCLEAR	Integer	-	NO	-	12032
WIND	Integer	-	NO	-	12032
PS	Integer	-	NO	-	12032
NPSHYD	Integer	-	NO	-	12032
OCGT	Integer	-	NO	-	12032
OTHER	Integer	-	NO	-	12032
INTFR	Integer	-	NO	-	12032
INTIRL	Integer	-	NO	-	12032
INTNED	Integer	-	NO	-	12032
INTEW	Integer	-	NO	-	12032

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File:

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HDR, HALF HOURLY OUTTURN GENERATION BY FUEL TYPE DATA

FUELHH,20080428,1,18137,1850,0,15315,7308,189,15,15,0,55,152,12,16

FUELHH,20080428,2,18134,1849,0,15312,7307,181,16,14,0,52,150,22,16

FTR,2

6.1.7 NATIONAL OUTPUT USABLE DATA FOR 1 YEAR

API service details for the flow is as follows

Service Name	nationalOutputUsableDataforOneYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOUY1/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOUY1/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending) 2. Input data flow : NOUY1
Comments	Records are retrieved for (systemyear + 1) ,if no data is available for (systemyear + 1) then records are retrieved for previous year(systemyear) .

API Web service – Request and Response format details:

API Webservice – Request - National Output Usable Data for 1 Year

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - National Output Usable Data for 1 Year

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 1) DATA"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
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Record Type	String	-	No	-	Fixed string value "NOUY1"
Publication Time	Date	-	No	1.1.1.40 YYYY-MM-DD HH:MM:SS	2014-07-08 10:59:00
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY1"
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20140708105900
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 1)DATA

NOUY1,201004231113,N,1,2011,75907

NOUY1,201004231113,N,2,2011,74731

FTR,2

6.1.8 NATIONAL OUTPUT USABLE DATA FOR 2 YEAR

An API service detail for the flow is as follows

Service Name	nationalOutputUsableDataforTwoYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOUY2/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOUY2/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>

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Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending) 2. Input data flow : NOUY2
Comments	Records are retrieved for (systemyear + 2) ,if no data is available for (systemyear + 2) then records are retrieved for previous year(systemyear + 1)

API Web service – Request and Response format details:

API Webservice – Request - National Output Usable Data for 2 Year

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - National Output Usable Data for 2 Year

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 2) DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY2"
Publication Time	Date	-	No	1.1.1.41 YYYY-MM-DD HH:MM:SS	2014-07-08 10:59:00
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163
Active Flag	String	-	No	-	Y

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CSV Download Service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY2"
Publication Time	Date	-	No	1.1.1.42 YYYYMMDDHHMMSS	20140708105900
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 2)DATA

NOUY2,201004231113,N,1,2012,75907

NOUY2,201004231113,N,2,2012,74731

FTR,2

6.1.9 NATIONAL OUTPUT USABLE DATA FOR 3 YEAR

API service details for the flow is as follows

Service Name	nationalOutputUsableDataforThreeYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOUY3/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOUY3/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending) 2. Input data flow : NOUY3
Comments	Records are retrieved for (systemyear + 3) ,if no data is available for (systemyear + 3) then records are retrieved for previous year(systemyear + 2)

API Web service – Request and Response format details:

API Webservice – Request - National Output Usable Data for 3 Year

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
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ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - National Output Usable Data for 3 Year

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 3) DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY3"
Publication Time	Date	-	No	1.1.1.43 YYYY-MM-DD HH:MM:SS	2014-07-08 10:59:00
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY3"
Publication Time	Date	-	No	1.1.1.44 YYYYMMDDHHMMSS	20140708105900
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163

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Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 3)DATA

NOUY3,201004231113,N,1,2013,75907

NOUY3,201004231113,N,2,2013,74731

FTR,2

6.1.10 NATIONAL OUTPUT USABLE DATA FOR 4 YEAR

API service details for the flow is as follows

Service Name	nationalOutputUsableDataforFourYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOUY4/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOUY4/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending) 2. Input data flow : NOUY4
Comments	Records are retrieved for (systemyear + 4) ,if no data is available for (systemyear + 4) then records are retrieved for previous year(systemyear + 3)

API Web service – Request and Response format details:

API Webservice – Request - National Output Usable Data for 4 Year

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - National Output Usable Data for 4 Year

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 4) DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY4"

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Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-07-08 10:59:00
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163
Active Flag	String	-	No	-	Y

1.1.1.45 CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY4"
Publication Time	Date	-	No	1.1.1.46 YYYYMMDDHHMMSS	20140708105900
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 4)DATA

NOUY4,201004231113,N,1,2014,75907

NOUY4,201004231113,N,2,2014,74731

FTR,2

6.1.11 NATIONAL OUTPUT USABLE DATA FOR 5 YEAR

API service details for the flow is as follows

Service Name	nationalOutputUsableDataforFiveYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOUY5/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOUY5/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending) 2. Input data flow : NOUY5

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Comments	Records are retrieved for (systemyear + 5) ,if no data is available for (systemyear + 5) then records are retrieved for previous year(systemyear + 4)
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API Web service – Request and Response format details:

API Webservice – Request - National Output Usable Data for 5 Year

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/xml/XML/CSV

API Webservice – Response - National Output Usable Data for 5 Year

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 5) DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY5"
Publication Time	Date	-	No	1.1.1.47 YYYY-MM-DD HH:MM:SS	2014-07-08 10:59:00
System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163
Active Flag	String	-	No	-	Y

1.1.1.48 CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOUY5"
Publication Time	Date	-	No	1.1.1.49 YYYYMMDD HHMMSS	20140708105900

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System Zone	String	-	No	N	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 5)DATA
 NOUY5,201004231113,N,1,2015,75907
 NOUY5,201004231113,N,2,2015,74731
 FTR,2

6.1.12 BID-OFFER LEVEL DATA

API service details for the flow is as follows

Service Name	bidOfferLevelDataService
Method	GET
Input URL	<a href="http://<host>:<port>/BMRS/BOD/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&SettlementPeriod=<SettlementPeriod>&BmUnitId=<BmUnitId>&BmUnitType=<BmUnitType>&LeadPartyName=<LeadPartyName>&NgcBmUnitName=<NgcBmUnitName>&ServiceType=<xml/XML/csv/CSV>">http://<host>:<port>/BMRS/BOD/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&SettlementPeriod=<SettlementPeriod>&BmUnitId=<BmUnitId>&BmUnitType=<BmUnitType>&LeadPartyName=<LeadPartyName>&NgcBmUnitName=<NgcBmUnitName>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: BM Unit Id (Ascending), BM Offer Pair Number (Descending), From Time (Ascending) - Input data flow : BOD
Comments	Default Value (if none specified): Settlement Date = Current Date, Settlement Period = *, BM Unit Id = *, BM Unit Type = *, Lead Party Name = *, NGC BM Unit Name = *, (* implies all values)

API Web service – Request and Response format details:

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Settlement Date	String	-	No	YYYY-MM-DD	2014-02-01
Settlement Period	String	-	No	1 to 50 or *	12
BM Unit Id	String	-	No	-	2__AEENG000, G, E.ON Energy Solutions Limited, EAS-EST01
BM Unit Type	String	-	No	-	G, S, E, I, T, etc
Lead Party Name	String	-	No	-	AES New Energy Limited
NGC BM Unit Name	String	-	No	-	EAS-ASP01, AES New Energy Limited, G, 2__AAEPD000

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Service Type	String	-	No	-	csv/xml/CSV/XML
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API Webservice – Response - Level and Prices

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "BID OFFER LEVEL DATA"
Settlement Date	From input parameter
Settlement Period	From input parameter

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	"BOD"
BM Unit Id	String	-	No	-	2__AEENG000, G, E.ON Energy Solutions Limited, EAS-EST01
BM Unit Type	String	-	No	-	G, S, E, I, T, etc
Lead Party Name	String	-	No	-	AES New Energy Limited
NGC BM Unit Name	String	-	No	-	EAS-ASP01, AES New Energy Limited, G, 2__AAEPD000
BM Offer Pair Number	Integer	-	No	-	1, -1, etc.
From Time	Date	-	No	1.1.1.50 YYYY-MM-DD HH:MM:SS	2000-10-16 17:30:00
From Level	Integer	-	No	1.1.1.51 -	0
To Time	Date	-	No	1.1.1.52 YYYY-MM-DD HH:MM:SS	2000-10-16 17:30:00
To Level	Integer	-	No	-	0
Bid Price	Double	-	No	-	0
Offer Price	Double	-	No	-	0
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	"BOD"

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BM Unit Id	String	-	No	-	2_AEENG000, G, E.ON Energy Solutions Limited, EAS-EST01
BM Unit Type	String	-	No	-	G, S, E, I, T, etc
Lead Party Name	String	-	No	-	AES New Energy Limited
NGC BM Unit Name	String	-	No	-	EAS-ASP01, AES New Energy Limited, G, 2_AAEPD000
BM Offer Pair Number	Integer	-	No	-	1, -1, etc.
From Time	Date	-	No	1.1.1.53 YYYYMMDDH HMMSS	20001016173000
From Level	Integer	-	No	1.1.1.54 -	0
To Time	Date	-	No	1.1.1.55 YYYYMMDDH HMMSS	20001016173000
To Level	Integer	-	No	-	0
Bid Price	Double	-	No	-	0
Offer Price	Double	-	No	-	0

Example File:

```
HDR,BID OFFER LEVEL DATA,20001016,*
BOD,T_GENSET176,-2,20001016173000,-10.000,20001016180000,-10.000,10.00000,15.00000
BOD,T_GENSET176,-1,20001016173000,-10.000,20001016180000,-10.000,20.00000,25.00000
BOD,T_GENSET176,1,20001016173000,10.000,20001016180000,10.000,30.00000,35.00000
BOD,T_GENSET176,2,20001016173000,10.000,20001016180000,10.000,40.00000,45.00000
BOD,T_GENSET176,3,20001016173000,10.000,20001016180000,10.000,50.00000,55.00000
FTR,5
```

6.1.13 CREDIT DEFAULT NOTICE DATA

API service details for the flow is as follows

Service Name	creditDefaultNoticeDataService
Method	GET
Input URL	<a href="http://<host>:<port>/BMRS/CDN/<VersionNo>?APIKey=<APIKey>&FromClearedDate=<FromClearedDate>&ToClearedDate=<ToClearedDate>&ServiceType=<xml/XML/csv/CSV>">http://<host>:<port>/BMRS/CDN/<VersionNo>?APIKey=<APIKey>&FromClearedDate=<FromClearedDate>&ToClearedDate=<ToClearedDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV

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Description	1. Default Sorting: Participant ID (ascending), 2. Entries with a null Cleared Date and Cleared Period (ie. Parties that are still in default) are displayed above entries with non-null Cleared Date and Cleared Period. 3. Input data flow : CDN
Comments	1. Default Value (if none specified): From Cleared Date = Current System Date (i.e. Today) – 30 (configurable) To Cleared Date = NULL

API Web service – Request and Response format details:

API Webservice – Request - Credit Default Notices

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Cleared Date	String	DateTime	No	YYYY-DD-MM	2014-12-12
To Cleared Date	String	DateTime	No	YYYY-DD-MM	2014-12-12
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Credit Default Notices

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "CREDIT DEFAULT NOTICE DATA"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "CDN"
Participant ID	String	-	No	-	NEEB
Credit Default Level	Integer	-	No	-	1
Entered Default Settlement Date	Date	-	No	YYYY-MM-DD	2003-02-24
Energy Default Settlement Period	Integer	-	No	-	2
Cleared Default Settlement Date	Date	-	No	YYYY-MM-DD	2003-02-24
Cleared Default Settlement Period	Integer	-	No	-	21
Cleared Default Text	String	-	No	-	Credit Cover Percentage <= 75% of credit limit(level default)
Active Flag	String	-	No	-	Y

CSV download service:

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Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "CDN"
Participant ID	String	-	No	-	NEEB
Credit Default Level	Integer	-	No	1.1.1.56 -	1
Entered Default Settlement Date	Date	-	No	1.1.1.57 YYYY MMDD	20030224
Energy Default Settlement Period	Integer	-	No	1.1.1.58 -	2
Cleared Default Settlement Date	Date	-	No	1.1.1.59 YYYY YMMDD	20030224
Cleared Default Settlement Period	Integer	-	No	-	21
Cleared Default Text	String	-	No	-	Credit Cover Percentage <= 75% of credit limit(level default)

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File:

HDR,CREDIT DEFAULT NOTICE DATA

CDN,MANW,2,20130714,4,20141212,41,Credit Cover Percentage <= 90% of Credit Limit (Level 2 Default)

CDN,MANW,2,20130714,4,20141123,41,Credit Cover Percentage <= 90% of Credit Limit (Level 2 Default)

CDN,MANW,2,20130714,4,20141124,41,Credit Cover Percentage <= 90% of Credit Limit (Level 2 Default)

FTR,3

6.1.14 BALANCING SERVICES ADJUSTMENT ACTION DATA

API service details for the flow is as follows

Service Name	balancingServicesAdjustmentActionDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/DISBSAD/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&SettlementPeriod=<SettlementPeriod>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/DISBSAD/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&SettlementPeriod=<SettlementPeriod>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : DISBSAD
Comments	1. Default Value : Settlement Date= Current System Date (i.e. Today), Settlement Period = *.

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API Web service – Request and Response format details:

API Webservice – Request - BalancingServicesAdjustmentData

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Settlement Date	String	-	No	YYYY-MM-DD	2041-08-15
Settlement Period	String	-	No	-	1 to 50
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - BalancingServicesAdjustmentData

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string "BALANCING SERVICES ADJUSTMENT DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	DISAG
Settlement Date	Date	-	No	1.1.1.60 YYYY-MM-DD	2014-10-18
Settlement Period	Integer	-	No	-	1
Action Identifier	Integer	-	No	-	6
Action Cost	Double	-	No	-	1031.53
Action Volume	Double	-	No	-	150.25
SO-Flag	String	-	No	-	T
Active Flag	String	-	No	-	Y

CSV Download Service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	DISAG
Settlement Date	Date	-	No	YYYYMMDD	20141018
Settlement Period	Integer	-	No	-	1
Action Identifier	Integer	-	No	-	6
Action Cost	Double	-	No	-	1031.53
Action Volume	Double	-	No	-	150.25
SO-Flag	String	-	No	-	T

Example File

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HDR,BALANCING SERVICES ADJUSTMENT DATA

DISAG,20140906,1,1001,T,0.0,28.0

DISAG,20140906,1,1002,F,0.0,10.0

FTR,2

6.1.15 ROLLING SYSTEM FREQUENCY

API service details for the flow is as follows

Service Name	rollingSystemFrequencyService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/FREQ/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/FREQ/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Date (Ascending), SpotTime (Ascending) 2. Input data flow : FREQ
Comments	1. Default Value (if none specified): From DateTime = Current System DateTime – 48 Hr (configurable) To DateTime = Current System DateTime

API Web service – Request and Response format details:

API Webservice – Request - Rolling System Frequency

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From DateTime	String	-	No	YYYY-MM-DD HH:MM:SS	2014-10-10 10:10:10
To DateTime	String	-	No	YYYY-MM-DD HH:MM:SS	2014-10-10 10:10:10
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Rolling System Frequency

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "SYSTEM FREQUENCY DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	VD	VD

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Date	Date	-	No	YYYY-MM-DD	2014-10-10
Spot Time	Date	-	No	1.1.1.61 HH:MM:SS	10:42:55
Frequency(Hz)	Double	-	No	Derived data = Sum of demand across all the Fuel type (N0509)	50000.09
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	VD	VD
DateTime	Date	-	No	1.1.1.62 YYYYMMDDHHMMSS	20141010101010
Frequency(Hz)	Double	-	No	Derived data = Sum of demand across all the Fuel type (N0509)	50000.00

NOTE :

- Also note that, even in cases where 'From Date Time' and 'To Date Time' are defined as optional with default values, either both should be absent or both have to be present.
- FromDateTimeshould not be greater than ToDateTime. If so exception is thrown with appropriate Message.

Example File:

```
HDR, SYSTEM FREQUENCY DATA
FREQ,20080428170500,49.101
FREQ,20080428171000,49.393
FREQ,20080428171500,49.573
FREQ,20080428172000,49.032
FREQ,20080428172500,49.432
FTR,5
```

6.1.16 FORECAST DAY AND DAY AHEAD DEMAND DATA

API service details for the flow is as follows

Service Name	forecastDayAndDayAheadDemandDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/FORDAYDEM/<VersionNo>?APIKey=<APIKey>&ZoneIdentifier=<ZoneIdentifier>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/FORDAYDEM/<VersionNo>?APIKey=<APIKey>&ZoneIdentifier=<ZoneIdentifier>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>

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Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : NDF, TSDF, INDDDEM, INDGEN
Comments	1. Default Value (if none specified): Zone Identifier = N, From Date = Current system Date ,To Date = Current System Date + 2

API Web service – Request and Response format details:

API Webservice – Request - Forecast day and day ahead demand data

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Zone Identifier	String	-	No	-	Default Zone Identifier = N
From Date	String	-	No	YYYY-MM-DD	2014-08-11
To Date	String	-	No	YYYY-MM-DD	2014-08-12
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/XML/xml

API Webservice – Response - Forecast day and day ahead demand data

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "FORECAST DAY AND DAY AHEAD DEMAND DATA"

Body Record

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Zone (Boundary ID)	String	-	No	Always N	N
Settlement Date	Date	-	No	YYYY-MM-DD	2000-10-10
Settlement Period (S/P)	Integer	-	No	-	10
Record Type	String	-	No	-	DANF
Publish Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2000-10-16 22:00:00
Demand/SPNDemand/SP NGeneration	Integer	-	No	-	9861

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Active Flag	String	-	No	-	Y
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CSV download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	DANF
Settlement Date	Date	-	No	YYYYMMDD	20141010
Settlement Period (S/P)	Integer	-	No	-	10
Zone (Boundary ID)	String	-	No	Always N	N
Publish Time	Date	-	No	YYYYMMDDHHMMSS	20001016220000
Demand/SPNDemand/SP NGeneration	Integer	-	No	-	9861

Example File:

HDR,FORECAST DAY AND DAY AHEAD DEMAND DATA

DANF,20001017,1,N,20001016220000,9861

DANF,20001017,2,N,20001016220000,8783

DATF,20001017,1,N,20001016220000,9661

DATF,20001017,2,N,20001016220000,8583

DAID,20001017,1,N,20001016220000,9560

DAID,20001017,2,N,20001016220000,8484

DAIG,20001017,1,N,20001016220000,9699

DAIG,20001017,2,N,20001016220000,8612

FTR,8

6.1.17 MARKET INDEX DATA

API service details for the flow is as follows

Service Name	marketIndexDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/MID/<VersionNo>?APIKey=<APIKey>&FromSettlementDate=<FromSettlementDate>&ToSettlementDate=<ToSettlementDate>&Period=<Period>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/MID/<VersionNo>?APIKey=<APIKey>&FromSettlementDate=<FromSettlementDate>&ToSettlementDate=<ToSettlementDate>&Period=<Period>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Data Provider (Alphabetic Ascending), Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : MID

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Comments	1. Default Value (if none specified): From Settlement Date= Current System Date – 1 (i.e. Yesterday), To Settlement Date= Current System Date (i.e. Today) ,Settlement Period = * 2. Data available only for Settlement Periods before the Current Settlement Period.
-----------------	--

API Web service – Request and Response format details:

API Webservice Request - Market Index Data

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
From Settlement Date	String	-	No	YYYY-MM-DD	2014-08-10
To Settlement Date	String	-	No	YYYY-MM-DD	2014-08-11
Period	String	-	No	-	1 to 50 or *
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/XML/xml

API Webservice Response - Market Index Data

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "MARKET INDEX DATA"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	MID
Data Provider	String	-	No	-	APXMIDP
Settlement Date	Date	-	No	YYYY-MM-DD	2014-08-11
Settlement Period	Integer	-	No	-	1 to 50
Price	Double	-	No	-	24.09
Volume	Double	-	No	-	434.4
Active Flag	String	-	No	-	Y

CSV Download service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	MID
Data Provider	String	-	No	-	APXMIDP
Settlement Date	Date	-	No	YYYYMMDD	20140811
Settlement Period	Integer	-	No	-	50
Price	Double	-	No	-	24.09

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Volume	Double	-	No	-	434.400
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NOTE :

- Also note that, even in cases where 'FromSettlementDate' and 'ToSettlementDate' are defined as optional with default values, either both should be absent or both have to be present.
- FromSettlementDate should not be greater than ToSettlementDate . If so exception is thrown with appropriate Message.

Example File:

HDR,MARKET INDEX DATA

MID,NNCUK,20001018,33,10.000,40.000

MID,NNCUK,20001018,36,20.000,50.000

MID,NNCUK,20001018,37,10.000,30.000

FTR,3

6.1.18 NON-BM STOR INSTRUCTED VOLUME DATA

API service details for the flow is as follows

Service Name	nonBMStorInstructedVolumeDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NONBM/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NONBM/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date(Ascending), Settlement Period (Ascending) 2. Input data flow : NONBM
Comments	1. Default Value (if none specified): From Date = Current System Date – 1, To Date = Current System Date

API Web service – Request and Response format details:

API Webservice – Request - Non - BM Stor Instructed Volumes

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
From Date	String	-	No	YYYY-MM-DD	2014-08-11
To Date	String	-	No	YYYY-MM-DD	2014-08-12
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/XML/xml

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API Webservice – Response - Non - BM Stor Instructed Volumes

Header Record :

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NON-BM STOR INSTRUCTED VOLUME DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	NONBM
Settlement Date	Date	-	No	1.1.1.63 YYYY-MM-DD	2014-08-11
Settlement Period	Integer	-	No	1.1.1.64 -	1 to 50
SystemZone	String	-	No	-	Always N
NONBM Publish Time	Date	-	No	1.1.1.65 YYYY-MM-DD HH:MM:SS	2014-08-10 15:22:00
Instructed Volume (MWh)	Integer	-	No	-	12345
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	NONBM
Settlement Date	Date	-	No	1.1.1.66 YYYYMMDD	20140811
Settlement Period	Integer	-	No	1.1.1.67 -	1 to 50
SystemZone	String	-	No	-	Always N
NONBM Publish Time	Date	-	No	1.1.1.68 YYYYMMDDHH MMSS	20140810152200
Instructed Volume (MWh)	Integer	-	No	-	12345

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

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Example File:

HDR, NON-BM STOR INSTRUCTED VOLUME DATA
NONBM,20141109,1,N,20141109003000,12345
NONBM,20141109,2,N,20141109010000,12345
NONBM,20141109,3,N,20141109013000,12345
FTR,3

6.1.19 NATIONAL OUTPUT USABLE (2-14 DAYS AHEAD)

API service details for the flow is as follows

Service Name	nationalOutputUsable2T14DaysAheadService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending) 2. Input data flow : NOU2T14D
Comments	Records are retrieved for date ranges between (Currentdate + 2 days) to (Currentdate + 14 days). Note that in legacy (existing) BMRS this data is available in CSV or XML. The header and footer labels in the snapshot are for that. These are not explicitly listed for Restful API.

API Web service – Request and Response format details:

API Webservice – Request : National Output Usable Data for 2 to 14 days (NOU2T14D)

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response : National Output Usable Data for 2 to 14 days (NOU2T14D)

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS) DATA"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOU2T14D"
Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-11-03 14:45:00
System Zone	String	-	No	-	N
Settlement Date	Date	-	No	YYYY-MM-DD	2014-07-27

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Output Usable	Integer	-	No	-	10045
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	Fixed string value "NOU2T14D"
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20141103144500
System Zone	String	-	No	-	N
Settlement Date	Date	-	No	YYYYMMDD	20140727
Output Usable	Integer	-	No	-	10045

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS)DATA
 NOU2T14D,20141031151700,N,20141106,63825
 NOU2T14D,20141031151700,N,20141107,62977
 FTR,2

6.1.20 APPLICABLE BALANCING SERVICES VOLUME DATA

API service details for the flow is as follows

Service Name	applicableBalancingServiceVoulmeDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/QAS/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&SettlementPeriod=<SettlementPeriod>&BmUnitId=<BmUnitId>&NgcBmUnitName=<NgcBmUnitName>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/QAS/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&SettlementPeriod=<SettlementPeriod>&BmUnitId=<BmUnitId>&NgcBmUnitName=<NgcBmUnitName>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: Settlement Period (Ascending) - Input data flow : QAS
Source	MySQL
Destination	Third party software
Data Source	Reporting Database
Database Table Name	T_BMRS_APP_BLNCNG_SRVCS
Comments	Default Value (if none specified): Settlement Date = Current Date, Settlement Period = *, One of BM Unit ID / NGC BM Unit ID is mandatory. (* implies all values)

API Web service – Request and Response format details:

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API Webservice – Request - Applicable Balancing Services Volume

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Settlement Date	String	-	No	YYYY-MM-DD HH:MM:SS	2013-10-24 05:52:45
Settlement Period	String	-	No	1 to 50 or *	12
BM Unit ID	String	-	Yes	-	-
NGC BM Unit Name	String	-	Yes	-	-
Service Type	String	-	No	-	csv/CSV/xml/XML

NOTE: At least one of BM Unit ID or NGC BM Unit Name is mandatory

API Webservice – Response - Applicable Balancing Services Volume

Header Record:

Report Output Field Mapping		Condition			
Record Type		Fixed string value "HDR"			
File Type		1.1.1.69 Fixed string value "APPLICABLE BALANCING SERVICES VOLUME"			
Body Record :Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	QAS
BM Unit Id	String	-	No	-	-
BM Unit Type	String	-	No	-	-
Lead Party Name	String	-	No	-	-
NGC BM Unit Name	String	-	No	-	BAGE-1
Settlement Date	Date	-	No	1.1.1.70 YYYY-MM-DD	2014-07-27
Settlement Period	Integer	-	No	-	12
Balancing Service Volume	Double	-	No	-	-
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	QAS
BM Unit Id	String	-	No	-	-
BM Unit Type	String	-	No	-	-
Lead Party Name	String	-	No	-	-
NGC BM Unit Name	String	-	No	-	BAGE-1

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Settlement Date	Date	-	No	1.1.1.71 YYYYMMDD	20140727
Settlement Period	Integer	-	No	-	12
Balancing Service Volume	Double	-	No	-	-

Example File:

HDR,APPLICABLE BALANCING SERVICES VOLUME,20001016,1
 QAS,T_GENERATE,1,38889.000
 QAS,E_EMBED,1,39066.000
 FTR,2

6.1.21 ROLLING SYSTEM DEMAND

API service details for the flow is as follows

Service Name	rollingSystemDemandService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ROLSYSDEM/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ROLSYSDEM/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: Date (Ascending),Time (Ascending) - Input data flow : FUELINST
Comments	Default Value (if none specified): From Date = Current Date – 2 days, To Date = Current Date

API Web service – Request and Response format details:

API Webservice – Request - Rolling System Demand

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2013-10-24
To Date	String	-	No	YYYY-MM-DD	2013-10-24
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - Rolling System Demand

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "ROLLING SYSTEM DEMAND"

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Body records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	VD	VD
Date	Date	-	No	YYYY-MM-DD	2013-10-24
Time	Date	-	No	HH:MM:SS	10:42:55
Demand(MW)	Integer	-	No	Derived data = Sum of demand across all the Fuel type (N0509)	50000
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	VD	VD
Date	String	-	No	YYYYMMDDHHMMSS	20131024101010
Demand(MW)	Integer	-	No	Derived data = Sum of demand across all the Fuel type (N0509)	50000

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.
- For CSV output Date and Time fields are concatenated and displayed

Example File:

```
HDR,SYSTEM DEMAND DATA
VD,20141102055500,22500
VD,20141102055500,22671
VD,20141102055500,22944
FTR,3
```

6.1.22 FORECAST DAY AND DAY AHEAD MARGIN AND IMBALANCE DATA

API service details for the flow is as follows

Service Name	forecastDayAndDayAheadMarginAndImbalanceService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/MELIMBALNGC/<VersionNo>?APIKey=<APIKey>&ZoneIdentifier=<ZoneIdentifier>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/MELIMBALNGC/<VersionNo>?APIKey=<APIKey>&ZoneIdentifier=<ZoneIdentifier>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV

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Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : IMBALNGC, MELNGC
Comments	1. Default Values (if none specified): Zone Identifier = N, From Date = Current System Date, To Date = Current System Date + 2

API Web service – Request and Response format details:

API Webservice – Request – ForecastDayAndDayAheadMarginAndImbalance

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
Zone Identifier	String	-	No	-	Default data N
From Date	String	-	No	YYYY-MM-DD	2014-08-11
To Date	String	-	No	YYYY-MM-DD	2014-08-12
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - ForecastDayAndDayAheadMarginAndImbalance

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "FORECAST DAY AND DAY AHEAD MARGIN AND IMBALANCE DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Zone ID	String	-	No	-	B1 to B14
Settlement Date	Date	-	No	-	2014-08-11
Settlement Period	Integer	-	No	-	1 to 50
Record Type	String	-	No	1.1.1.72 -	Fixed string value -"DAM" or "DAI"
Publish Time	Date	-	No	1.1.1.73 YYY Y-MM-DD HH:MM:SS	2014-08-10 14:22:00

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Margin/ImbalanceValue	Integer	Margin value or Imbalance Value will be present for corresponding record type.	No	1.1.1.74 -	26223
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Zone ID	String	-	No	-	B1 to B14
Settlement Date	Date	-	No	-	20140811
Settlement Period	Integer	-	No	-	1 to 50
Record Type	String	-	No	1.1.1.75 -	Fixed string value -"DAM" or "DAI"
Publish Time	Date	-	No	1.1.1.76 YYYY MMDD HHMMSS	20140810142200
Margin/ ImbalanceValue	Integer	Margin value or Imbalance Value will be present for corresponding record type.	No	-	26223

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File:

HDR,FORECAST DAY AND DAY AHEAD MARGIN AND IMBALANCE DATA

DAM,20001017,1,B1,20001016220000,2623

DAM,20001017,2,B1,20001016220000,2574

DAI,20001017,1,B1,20001016220000,2602

DAI,20001017,2,B1,20001016220000,2556

FTR,4

6.1.23 NATIONAL OUTPUT USABLE BY BM UNIT & FUEL TYPE (2-14 Days Ahead)

API service details for the flow is as follows

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Service Name	nationalOutputUsableByBMUnitAndFuelType2T14DaysService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/UOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/UOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: BM Unit Id (Ascending),Fuel Type (Ascending) 2. Input data flow : UOU2T14D
Comments	Records are retrieved for date ranges between (Currentdate + 2 days) to (Currentdate + 14 days)

API Web service – Request and Response format details:

API Webservice - Request - NationalOutputUsableByBMUnitAndFuelType

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice - Response - NationalOutputUsableByBMUnitAndFuelType

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS) DATA – BY BM UNIT/INTERCONNECTOR & FUELTYPE"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	UOU2T14D
BM Unit ID	String	-	No	-	BMUNIT01
FuelType	String	-	No	-	CCGT
Publication(Date) Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2010-01-02 15:50:00
System Zone	String	-	No	-	Must be 'N'
Settlement Date	Date	-	No	YYYY-MM-DD	2014-07-29
Output Usable	Integer	-	No	-	10000
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
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Record Type	String	-	No	-	UOU2T14D
BM Unit ID	String	-	No	-	BMUNIT01
FuelType	String	-	No	-	CCGT
Publication(Date) Time	Date	-	No	YYYYMMDD HHMMSS	20100102155000
System Zone	String	-	No	-	Must be 'N'
Settlement Date	Date	-	No	YYYYMMDD	20140729
Output Usable	Integer	-	No	-	10000

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS)DATA – BY
 BM UNIT/INTERCONNECTOR & FUEL TYPE
 UOU2T14D,BMUNIT01,CCGT,201001021550,N,20100204,150
 UOU2T14D,BMUNIT02,COAL, 201001021550,N,20100204,150
 UOU2T14D,BMUNIT03,OIL, 201001021550,N,20100204,150
 UOU2T14D,INTFR, INTFR, 201001021550,N,20100204,150
 FTR,4

6.1.24 NATIONAL OUTPUT USABLE BY FUEL TYPE (2-14 Days Ahead)

API service details for the flow is as follows

Service Name	nationalOutputUsableByFuelType2T14DaysService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/FOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/FOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: Fuel Type (Ascending), Settlement Date (Ascending) - Input data flow : FOU2T14D
Comments	Records are retrieved for date ranges between (Currentdate + 2 days) to (Currentdate + 14 days)

API Web service – Request and Response format details:

API Webservice – Request - NationalOutputUsableByFuelType2T14DaysService

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - NationalOutputUsableByFuelType2T14DaysService

Header Record:

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Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS) DATA – BY FUEL TYPE"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	FOU2T14D
FuelType	String	-	No	-	COAL
Publication (Date)Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2010-01-02 15:50:00
System Zone	String	-	No	-	Must be 'N'
Settlement Date	Date	-	No	YYYY-MM-DD	2014-07-29
Output Usable	Integer	-	No	-	100
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	FOU2T14D
FuelType	String	-	No	-	COAL
Publication (Date)Time	Date	-	No	YYYYMMDDHHMMSS	20100102155000
System Zone	String	-	No	-	Must be 'N'
Settlement Date	Date	-	No	YYYYMMDD	20140729
Output Usable	Integer	-	No	-	100

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS)DATA –
 BY FUEL TYPE
 FOU2T14D,CCGT,201001021550,N,20100204,1500
 FOU2T14D,OIL,201001021550,N,20100204,1500
 FOU2T14D,COAL,201001021550,N,20100204,1500
 FOU2T14D,NUCLEAR,201001021550,N,20100204,1500
 FTR,4

6.1.25 NATIONAL OUTPUT USABLE (2-52 weeks ahead)

API service details for the flow is as follows

Service Name	nationalOutputUsable2T52WeeksService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV

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Description	1. Default Sorting: Calendar Year (Ascending), Calendar Week Number (Ascending) 2. Input data flow : NOU2T52W
Comments	Records are retrieved for date ranges between (Currentdate + 2 weeks) to (Currentdate + 52 weeks) Note: The First day of week is considered as 'Monday'.

API Web service – Request and Response format details:

API Webservice – Request - NationalOutputUsable2T52Weeks

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - NationalOutputUsable2T52Weeks

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed string value "NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS)DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	NOU2T52W
Publication Time	Date	-	No	1.1.1.77 YYYY-MM-DD HH: MM:SS	2014-07-08 10:59:00
System Zone	String	-	No	1.1.1.78 -	N
Calendar Week Number	Integer	-	No	1.1.1.79 -	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	NOU2T52W

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Publication Time	Date	-	No	1.1.1.80 YYYYMMDDHHMMSS	20140708105900
System Zone	String	-	No	1.1.1.81 -	N
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	69163

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS)DATA

NOU2T52W,201004231113,N,18,2010,59588

NOU2T52W,201004231113,N,19,2010,60966

FTR,2

6.1.26 NATIONAL OUTPUT USABLE BY FUEL TYPE AND BM UNIT (2-52 WEEKS AHEAD)

API service details for the flow is as follows

Service Name	nationalOutputUsableByFuelType&BMUnit2T52WeeksService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/UOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/UOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: BM Unit Id (Ascending), Fuel Type (Ascending), Calendar Year (Ascending), Calendar Week Number (Ascending) - Input data flow : UOU2T52W
Comments	Records are retrieved for date ranges between (Currentdate + 2 weeks) to (Currentdate + 52 weeks). The First day of week is considered as 'Monday'.

API Web service – Request and Response format details:

API Webservice - Request - NationalOutputUsableByFuelType&BMUnit2T52Weeks

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice - Response - NationalOutputUsableByFuelType&BMUnit2T52Weeks

Header Record:

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Report Output Field Mapping	Condition
Record Type	HDR
File Type	NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS) DATA – BY BM UNIT/INTERCONNECTOR & FUEL TYPE

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	UOU2T52W
BM Unit ID	String	-	No	-	BMUNIT01
FuelType	String	-	No	-	COAL
Publishing Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2010-01-02 15:50:00
System Zone	String	-	No	-	Always 'N'
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	100
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	UOU2T52W
BM Unit ID	String	-	No	-	BMUNIT01
FuelType	String	-	No	-	COAL
Publishing Time	Date	-	No	1.1.1.82 YYYYMMDDHHMMSS	20100102155012
System Zone	String	-	No	-	Always 'N'
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	100

Example File

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS)DATA –
BY BM UNIT/INTERCONNECTOR & FUEL TYPE
UOU2T52W,BMUNIT01,CCGT,201001021550,N,12,2010,1000
UOU2T52W,BMUNIT02,COAL,201001021550,N,12,2010,1000
UOU2T52W,BMUNIT03,OIL,201001021550,N,12,2010,1000
UOU2T52W,INTFR,INTFR,201001021550,N,12,2010,2500
FTR,4

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6.1.27 BALANCING SERVICE ADJUSTMENT DATA

API service details for the flow is as follows

Service Name	balancingServiceAdjustmentDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/NETBSAD/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/NETBSAD/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : NETBSAD
Comments	1. Default Value (if none specified): From Date= Current System date-1 To Date= Current System Date

API Web service – Request and Response format details:

API Webservice – Request - BalancingServiceAdjustmentData

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	10-24-2013
To Date	String	-	No	YYYY-MM-DD	10-24-2013
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response - BalancingServiceAdjustmentData

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	BALANCING SERVICE ADJUSTMENT DATA

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	BSAD
Settlement Date	Date	-	No	YYYY-MM-DD	2014-10-18
Settlement Period	Integer	-	No	-	1
Net Energy Sell-Price Cost Adjustment – (ESCA) £	Double	-	No	-	60.23
Net Energy Sell-Price Volume Adjustment – (ESVA) MWh	Double	-	No	-	1031.53

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Net System Sell-Price Volume Adjustment – (SSVA) MWh	Double	-	No	-	150.25
Sell-Price Price Adjust – (SPA) £/MWh	Double	-	No	-	12.00
Net Energy Buy-Price Cost Adjustment – (EBCA) £	Double	-	No	-	0.0
Net Energy Buy-Price Volume Adjustment – (EBVA) MWh	Double	-	No	-	0.000
Net System Buy-Price Volume Adjustment – (SBVA) MWh	Double	-	No	-	0.000
Buy-Price Price Adjust (BPA) £/MWh	Double	-	No	-	0.00
Active Flag	String	-	No	-	Y

CSV Download service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	BSAD
Settlement Date	Date	-	No	1.1.1.83 YYYYMMDD	20141018
Settlement Period	Integer	-	No	-	1
Net Energy Sell-Price Cost Adjustment – (ESCA) £	Double	-	No	-	60.23
Net Energy Sell-Price Volume Adjustment – (ESVA) MWh	Double	-	No	-	1031.53
Net System Sell-Price Volume Adjustment – (SSVA) MWh	Double	-	No	-	150.25
Sell-Price Price Adjust – (SPA) £/MWh	Double	-	No	-	12.00
Net Energy Buy-Price Cost Adjustment – (EBCA) £	Double	-	No	-	0.0
Net Energy Buy-Price Volume Adjustment – (EBVA) MWh	Double	-	No	-	0.000

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Net System Buy-Price Volume Adjustment – (SBVA) MWh	Double	-	No	-	0.000
Buy-Price Price Adjust (BPA) £/MWh	Double	-	No	-	0.00

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File

HDR,BALANCING SERVICES ADJUSTMENT DATA
 BSAD,20140418,1,0.0,0.0,0.0,0.0,0.0,0.0,0.0
 BSAD,20140418,2,0.0,0.0,0.0,0.0,0.0,0.0,0.0
 BSAD,20140418,3,0.0,0.0,0.0,0.0,0.0,0.0,0.0
 FTR,3

6.1.28 ZONAL OUTPUT USABLE (2-14 DAYS AHEAD) (ZOU2T14D)

API service details for the flow is as follows

Service Name	zoneOutputUsable2T14DaysService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOU2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), System Zone (Ascending) 2. Input data flow : ZOU2T14D
Comments	Records are retrieved for date ranges between (Currentdate + 2 days) to (Currentdate + 14 days)

API Web service – Request and Response format details:

API Webservice – Request - ZoneOutputUsable2T14Days

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	xml/XML/csv/CSV

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API Webservice – Response - ZoneOutputUsable2T14Days

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS) DATA

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOU2T14D
Settlement Date	Date	-	No	YYYY-MM-DD	2014-10-18
Publishing Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2010-01-02 15:50:00
System Zone	String	-	No	B17	B1
Output Usable	Integer	-	No	-	100
Active Flag	String	-	No	-	Y

CSV Download service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOU2T14D
Publishing Time	Date	-	No	YYYYMMDDHHMMSS	20100102155000
System Zone	String	-	No	B1 TO B17	B1
Settlement Date	Date	-	No	YYYYMMDD	20141018
Output Usable	Integer	-	No	-	100

Example File

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-14 DAYS)DATA
ZOU2T14D,201004231113,B1,20100423,13389
ZOU2T14D,201004231113,B2,20100423,13151
FTR,2

6.1.29 ZONE OUTPUT USABLE (2-52 WEEKS AHEAD) (ZOU2T52W)

API service details for the flow is as follows

Service Name	zoneOutputUsable2T52WeeksService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar year (Ascending), : Calendar Weeks (Ascending), System Zone (Ascending) 2. Input data flow : ZOU2T52W
Comments	Records are retrieved for date ranges between (Currentdate + 2 weeks) to (Currentdate + 52 weeks). The First day of week is considered as 'Monday'.

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API Web service – Request and Response format details:

API Webservice – Request -ZoneOutputUsable2T14Days

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes		AP8DA23
Service Type	String	-	No		xml/XML/csv/CSV

API Webservice – Response - ZoneOutputUsable2T14Days

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS) DATA

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOU2T52W
Publishing Period Date	Date	-	No	YYYY-MM-DD HH:MM:SS	2010-01-02 15:50:00
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2015
Output Usable	Integer	-	No		100
Active Flag	String	-	No	-	Y

CSV Download service :

Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOU2T52W
Publishing Period Date	Date	-	No	1.1.1.84 YYYYMMDDHHMMSS	20100102155000
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1

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Calendar Year	Integer	-	No	-	2015
Output Usable	Integer	-	No		100

Example File:

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS)DATA
 ZOU2T52W,201004231113,B1,18,2010,11083
 ZOU2T52W,201004231113,B1,19,2010,11793
 FTR,2

6.1.30 DAILY ENERGY VOLUME DATA

API service details for the flow is as follows

Service Name	dailyEnergyVolumeDataService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/DEVINDOD/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/DEVINDOD/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: Settlement Day (Ascending) - Input data flow : INDOD
Comments	1. Default Value (if none specified): From Date= Current System date-90 days To Date= Current System Date

API Web service – Request and Response format details:

API Webservice – Request – DailyEnergyVolumeData

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2013-10-24
To Date	String	-	No	YYYY-MM-DD	2013-10-24
Service Type	String	-	No	-	xml/XML/csv/CSV

API Webservice – Response – DailyEnergyVolumeData

Header Record

Report Output Field Mapping	Condition
Record Type	HDR
File Type	DAILY ENERGY VOLUME DATA

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Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	INDOD
Settlement Day	Date	-	No	YYYY-MM-DD	2014-07-27
Daily Energy Volume Outturn	Integer	-	No	-	628909
Daily Energy Volume Normal Reference	Integer	-	No	-	594930
Daily Energy Volume Low Reference	Integer	-	No	-	542739
Daily Energy Volume High Reference	Integer	-	No	-	631710
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	INDOD
Settlement Day	Date	-	No	YYYYMMDD	20140727
Daily Energy Volume Outturn	Integer	-	No	-	628909
Daily Energy Volume Normal Reference	Integer	-	No	-	594930
Daily Energy Volume Low Reference	Integer	-	No	-	542739
Daily Energy Volume High Reference	Integer	-	No	-	631710

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File

HDR,DAILY ENERGY VOLUME DATA
INDOD,20081016,43323,40121,38124,47634
FTR,1

6.1.31 SYSTEM WARNINGS

API service details for the flow is as follows

Service Name	systemWarningsService
Method	GET

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Input URL	<a href="https://<host>:<port>/BMRS/SYSWARN/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/SYSWARN/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Warning Date/Time (Ascending) 2. Input data flow : System Messages
Comments	Default Value (if none specified): From Date= Current System Date – 1 (configurable) To Date= Current System Date

API Web service – Request and Response format details:

API Webservice – Request- SystemWarning

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2014-12-31
To Date	String	-	No	YYYY-MM-DD	2014-12-31
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response- SystemWarning

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	SYSTEM WARNING

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
RecordType	String	-	No	-	SYSWARN
Warning Date/Time	Date	-	No	1.1.1.85 YYYY-MM-DD HH:MM	2014-10-26 22:23
Warning Text	String	-	No	-	Text Data
Active Flag	String	-	No	-	Y

CSV Download Service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
RecordType	String	-	No	-	SYSWARN
Warning Date/Time	Date	-	No	1.1.1.86 YYYYMMDDHHMM	201410262223

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Warning Text	String	-	No	-	Text Data
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NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File

HDR,SYSTEM WARNINGS
SYSWARN,20141222130000,From : Power System Manager - National Grid Electricity Control Centre
NOTIFICATION CANCELLATION of GB TRANSMISSION SYSTEM WARNING
The GB Transmission System Warning NOTIFICATION OF INADEQUATE SYSTEM MARGIN issued for the period from 09:00 hrs to 23:30 hrs on Wednesday 20/12/2014 has been cancelled
The following GB Transmission System Warnings remain in force
none
Notification Issued at 13:15 hrs on 20/12/2014
Issued by John Hughes National Grid Electricity Control Centre
25753732 CANC 20/12/14 20/12/14 20/12/14
FTR,1

6.1.32 HALF HOURLY INTERCONNECTOR OUTTURN GENERATION

API service details for the flow is as follows

Service Name	halfHourlyInterConnectorOutturnGenerationService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/INTERFUELHH/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/INTERFUELHH/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Date (Ascending), Settlement Period (Ascending) 2. Input data flow : FUELHH
Comments	1. Default Value (if none specified): From Date= Current System date - 1 To Date= Current System Date

API Web service – Request and Response format details:

API Webservice – Request – HalfHourlyInterConnectorOutturnGeneration

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML
From Date	String	-	No	YYYY-MM-DD	2014-12-31
To Date	String	-	No	YYYY-MM-DD	2014-12-31

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API Webservice – Response-HalfHourlyInterConnectorOutturnGeneration

Header Record :

Report Output Field Mapping	Condition
Record Type	HDR
File Type	HALF HOURLY INTERCONNECTOR OUTTURN GENERATION

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	INTOUTH
Settlement Date	Date	-	No	1.1.1.87 YYYY-MM-DD	2014-10-26
Settlement Period	Integer	-	No	-	1
INTFR - External Interconnector flows with France	Integer	-	No	-	1704
INTIRL - External Interconnector flows with Ireland	Integer	-	No	-	202
INTNED - External Interconnector flows with the Netherlands	Integer	-	No	-	852
INTEW - External Interconnector flows with Ireland (East-West)	Integer	-	No	-	278
Active Flag	String	-	No	-	Y

CSV Download Service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	INTOUTH
Settlement Date	Date	-	No	1.1.1.88 YYYYMMDD	20141026
Settlement Period	Integer	-	No	-	1
INTFR - External Interconnector flows with France	Integer	-	No	-	1704
INTIRL - External Interconnector flows with Ireland	Integer	-	No	-	202

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INTNED - External Interconnector flows with the Netherlands	Integer	-	No	-	852
INTEW - External Interconnector flows with Ireland (East-West)	Integer	-	No	-	278

Example File

HDR,HALF HOURLY INTERCONNECTOR OUTTURN GENERATION
INTOUTH,20080428,1,55,152,23,32
INTOUTH,20080428,2,52,150,22,21
FTR,2

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

6.1.33 NATIONAL OUTPUT USABLE BY FUEL TYPE (2-52 WEEKS AHEAD)

API service details for the flow is as follows

Service Name	nationalOutputUsableByFuelType2T52WeeksService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/FOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/FOU2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Year (Ascending), Calendar Week (Ascending), Fuel Type (Ascending) 2. Input data flow : FOU2T52W
Comments	Records are retrieved for date ranges between (Currentdate + 2 weeks) to (Currentdate + 52 weeks). The First day of week is considered as 'Monday'.

API Web service – Request and Response format details:

API Webservice – Request - National Output Usable Data for 2- 52 Weeks

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

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API Webservice – Response - National Output Usable Data for 2- 52 Weeks

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS) DATA –FUEL TYPE

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	FOU2T52W
Fuel Type	String	-	No	-	COAL
Publishing Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-10-16 13:45:00
System Zone	String	-	No	NA	Always 'N'
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	100
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	FOU2T52W
Fuel Type	String	-	No	-	COAL
Publishing Time	Date	-	No	YYYYMMDDHHMMSS	20141016134500
System Zone	String	-	No	NA	N
Calendar Week Number	Integer	1.1.1.89 -	No	-	1
Calendar Year	Integer	-	No	YYYY	2017
Output Usable	Integer	-	No	-	100

Example File

HDR,NATIONAL OUTPUT USABLE MW BASED ON OC2 (2-52 WEEKS)DATA –
BY FUEL TYPE
FOU2T52W,CCGT,201001021550,N,3,2010,1500

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FOU2T52W,COAL,201001021550,N,3,2010,1500
FTR,2

6.1.34 INITIAL DEMAND OUTTURN

API service details for the flow is as follows

Service Name	initialDemandOutturnService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/INDOITSDO/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/INDOITSDO/<VersionNo>?APIKey=<APIKey>&FromDate=<FromDate>&ToDate=<ToDate>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow: INDO, ITSDO.
Comments	1. Default Value (if none specified): From Date= Current System date - 1 To Date= Current System Date

API Web service – Request and Response format details:

API Webservice – Request – InitialDemandOutturn

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
From Date	String	-	No	YYYY-MM-DD	2014-12-31
To Date	String	-	No	YYYY-MM-DD	2014-12-31
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response-InitialDemandOutturn

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	INITIAL DEMAND OUTTURN

Body record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Settlement Date	Date	-	No	1.1.1.90 YYYY-MM-DD	2014-10-26
Settlement Period	Integer	-	No	1.1.1.91 -	1
SystemZone	String	-	No	-	N
Record Type	String	-	No	1.1.1.92 -	INDO
Publish Time	Date	-	No	1.1.1.93 YYYY-MM-DD HH:MM:SS	2014-10-25 23:30:00

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Demand	Integer	-	No	1.1.1.94 -	23039
Active Flag	String	-	No	-	Y

CSV Download Service :

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	INDO/ITSDO
Settlement Date	Date	-	No	YYYYMMDD	20141026
Settlement Period	Integer	-	No	1.1.1.95 -	1
SystemZone	String	-	No	-	N
Publish Time	Date	-	No	1.1.1.96 YYYYMMDDHHMMSS	20141025233000
Demand	Integer	-	No	1.1.1.97 -	23039

NOTE :

- Also note that, even in cases where 'From Date' and 'To Date' are defined as optional with default values, either both should be absent or both have to be present.
- FromDate should not be greater than ToDate. If so exception is thrown with appropriate Message.

Example File

```
HDR,INITIAL DEMAND OUTTURN
INDO,20141109,1,N,20141109003000,27901
INDO,20141109,2,N,20141109010000,27745
INDO,20141109,3,N,20141109013000,27168
FTR,3
```

6.1.35 DEMAND & SURPLUS FORECAST DATA (2-14 DAYS AHEAD)

API service details for the flow is as follows

Service Name	demandAndSurplusForecastData2T14DaysService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/DEMMF2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/DEMMF2T14D/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Settlement Date (Ascending), Settlement Period (Ascending) 2. Input data flow : NDFD, TSDFD, OCNMFD, OCNMFD2.
Comments	Records are retrieved for date ranges between (Currentdate + 2 days) to (Currentdate + 14 days)

API Web service – Request and Response format details:

API Webservice – Request -DemandAndSurplusForecastData2T14Days

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Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response- DemandAndSurplusForecastData2T14Days

Header Record:

Report Output Field Mapping	Condition
Record Type	HDR
File Type	FORECAST 2 TO 14 DAYS AHEAD DEMAND AND MARGIN DATA

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Settlement Date	Date	-	No	1.1.1.98 YYYY-MM-DD	2014-10-29
Settlement Period	Integer	-	No	1.1.1.99 -	1
Boundary ID	String	-	No	1.1.1.100 -	Always is "N"
Record Type	String	-	No	1.1.1.101 -	DSN (for NDFD)or DST (for TSDFD)or DSM (for OCNMFD)or OCNMFD2 (for OCNMFD2)
Publication Time	Date	-	No	1.1.1.102 YYYY-MM-DD HH:MM:SS	2014-10-26 14:45:00
demand/margin	Integer	If Record Type is DSN,DST we will have demand value, or DSM,OCNMFD2 we will have margin value	No	-	45300
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Settlement Date	Date	-	No	1.1.1.103 YYYY MMDD	20141029
Settlement Period	Integer	-	No	1.1.1.104 -	1
Boundary ID	String	-	No	1.1.1.105 -	Always is "N"
Record Type	String	-	No	1.1.1.106 -	DSN (for NDFD)or DST (for TSDFD)or DSM (for OCNMFD)or OCNMFD2 (for OCNMFD2)

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Publication Time	Date	-	No	1.1.1.107 YYYY MMDDHHMMSS	20141026144500
demand/margin	Integer	If Record Type is DSN,DST we will have demand value, or DSM,OCNMF2 we will have margin value	No		45300

Example File

HDR,FORECAST 2 TO 14 DAYS AHEAD DEMAND AND MARGIN DATA
 DSN,20001019,9,N,20001016150000,41000
 DSN,20001020,11,N,20001016150000,42000
 OCNMF2,20001010,9,N,20001016150000,17330
 OCNMF2,20001010,11,N,20001016150000,14288
 FTR,4

6.1.36 DEMAND & SURPLUS FORECAST DATA (2-52 WEEKS AHEAD)

API service details for the flow is as follows

Service Name	demandAndSurplusForecastData2T52WeeksService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/DEMMF2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/DEMMF2T52W/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Record Type, 2. Week Number - Records ordered incrementing by this field (wraps from 53 to 1 when new year starts)Input data flow: NDFW, TSDFW, OCNMF2, and OCNMF2.
Comments	Records are retrieved for date ranges between (Currentdate + 2 weeks) to (Currentdate + 52 weeks). The First day of week is considered as 'Monday'.

API Web service – Request and Response format details:

API Webservice – Request DemandAndSurplusForecastData2T52Weeks

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response -DemandAndSurplusForecastData2T52Weeks

Header Record

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"

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File Type	Fixed string value "FORECAST 2 TO 52 WEEKS AHEAD DEMAND AND MARGIN DATA"
-----------	--

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample values
Week Number	Integer	-	No	-	46
Boundary ID	String	-	No	-	Always is "N"
Record Type	String	-	No	-	"WN"(for NDFW) or "WT" (for TSDFW) or "WM" (for OCNMFW) or "OCNMFW2" (for OCNMFW2)
Publication Time	Date	-	No	1.1.1.108 YYYY-MM-DD HH:MM:SS	2014-10-16 13:45:00
demand/margin	Integer	Depending upon Record type If it is WN,WT we will get Demand value else if it is WM,OCNMFW 2 we will get Margin value.	No	1.1.1.109 -	49500
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample values
Week Number	Integer	-	No	-	46
Boundary ID	String	-		-	Always is "N"
Record Type	String	-	No	-	"WN"(for NDFW) or "WT" (for TSDFW) or "WM" (for OCNMFW) or "OCNMFW2" (for OCNMFW2)
Publication Time	Date	-	No	1.1.1.110 YYYYMMDDHHMMSS	20141016134500
demand/margin	Integer	Depending upon Record type If it is WN,WT we	No	1.1.1.111 -	49500

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		will get Demand value else if it is WM,OCNMF2 we will get Margin value.			
--	--	---	--	--	--

Example File

HDR,FORECAST 2 TO 52 WEEKS AHEAD DEMAND AND MARGIN DATA
 WN,44,N,20001013170000,36000
 WN,45,N,20001013170000,37000
 OCNMF2,44,N,20001013170000,17830
 OCNMF2,45,N,20001013170000,18610
 FTR,4

6.1.37 ZONAL OUTPUT USABLE DATA FOR 1 YEAR

API service details for the flow is as follows

Service Name	zonalOutputUsableDataOneYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOUY1/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOUY1/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending), Zone (Ascending) 2. Input data flow : ZOUY1
Comments	Records are retrieved for (systemyear + 1) ,if no data is available for (systemyear + 1) then records are retrieved for previous year(systemyear)

API Web service – Request and Response format details:

API Webservice – Request - ZonalOutputUsableDataOneYearService

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response - ZONAL OUTPUT USABLE DATA FOR 1 YEAR

Header Record:

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Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed String "SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (YEAR 1) DATA"

Body Record :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOUY1
Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-09-17 08:39:00
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOUY1
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20141016134500
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120

Example File

HDR,ZONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 1)DATA

ZOUY1,201004231113,B1,1,2011,14120

ZOUY1,201004231113,B1,2,2011,13390

FTR,2

6.1.38 ZONAL OUTPUT USABLE DATA FOR 2 YEAR

API service details for the flow is as follows

Service Name	zonalOutputUsableDataTwoYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOUY2/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOUY2/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>

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Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending), Zone (Ascending) 2. Input data flow : ZOUY2
Comments	Records are retrieved for (systemyear + 2) ,if no data is available for (systemyear + 2) then records are retrieved for previous year(systemyear + 1)

API Web service – Request and Response format details:

API Webservice – Request – ZonalOutputUsableDataTwoYearService

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response - ZonalOutputUsableDataTwoYearService

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed String "SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (YEAR 2) DATA"

Body Records

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOUY2
Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-09-17 08:39:00
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOUY2
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20141016134500

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System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120

Example File

HDR, ZONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 2)DATA
 ZOUY2,201004231113,B1,1,2012,14120
 ZOUY2,201004231113,B1,2,2012,13390
 FTR,2

6.1.39 ZONAL OUTPUT USABLE DATA FOR 3 YEAR

API service details for the flow is as follows

Service Name	zonalOutputUsableDataThreeYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOUY3/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOUY3/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	- Default Sorting: Calendar Week Number (Ascending), Zone (Ascending) - Input data flow : ZOUY3
Comments	Records are retrieved for (systemyear + 3) ,if no data is available for (systemyear + 3) then records are retrieved for previous year(systemyear + 2)

API Web service – Request and Response format details:

API Webservice – Request – ZonalOutputUsableDataThreeYearService

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response - ZonalOutputUsableDataThreeYearService

Header Record:

Report Output Field Mapping	Condition
-----------------------------	-----------

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Record Type	Fixed string value "HDR"
File Type	Fixed String "SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (YEAR 3) DATA"

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOUY3
Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-09-17 08:39:00
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOUY3
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20141016134500
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120

Example File

HDR, ZONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 3)DATA
 ZOUY3,201004231113,B1,1,2013,14120
 ZOUY3,201004231113,B1,2,2013,13390
 FTR,2

6.1.40 ZONAL OUTPUT USABLE DATA FOR 4 YEAR

API service details for the flow is as follows

Service Name	zonalOutputUsableDataFourYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOUY4/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOUY4/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV

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Description	1. Default Sorting: Calendar Week Number (Ascending), Zone (Ascending) 2. Input data flow : ZOUY4
Comments	Records are retrieved for (systemyear + 4) ,if no data is available for (systemyear + 4) then records are retrieved for previous year(systemyear + 3)

API Web service – Request and Response format details:

API Webservice – Request – ZonalOutputUsableDataFourYearService

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response - ZonalOutputUsableDataFourYearService

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed String "SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (YEAR 4) DATA"

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOUY4
Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-09-17 08:39:00
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120
Active Flag	String	-	No	-	Y

CSV Download Service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOUY4
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20141016134500
System Zone	String	-	No	One of B1-B17	B1
Calendar Week	Integer	-	No	-	1

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Number					
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120

Example File

HDR, ZONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 4)DATA
ZOUY4,201004231113,B1,1,2014,14120
ZOUY4,201004231113,B1,2,2014,13390
FTR,2

6.1.41 ZONAL OUTPUT USABLE DATA FOR 5 YEAR

API service details for the flow is as follows

Service Name	zonalOutputUsableDataFiveYearService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/ZOUY5/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/ZOUY5/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Calendar Week Number (Ascending), Zone (Ascending) 2. Input data flow : ZOUY5
Comments	Records are retrieved for (systemyear + 5) ,if no data is available for (systemyear + 5) then records are retrieved for previous year(systemyear + 4)

API Web service – Request and Response format details:

API Webservice – Request – ZonalOutputUsableDataFiveYearService

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response - ZonalOutputUsableDataFiveYearService

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"

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File Type	Fixed String "SYSTEM ZONE OUTPUT USABLE MW BASED ON OC2 (YEAR 5) DATA"
-----------	--

Body Records :

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample data
Record Type	String	-	No	-	ZOUY5
Publication Time	Date	-	No	YYYY-MM-DD HH:MM:SS	2014-09-17 08:39:00
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120
Active Flag	String	-	No	-	Y

CSV Download Service:

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample data
Record Type	String	-	No	-	ZOUY5
Publication Time	Date	-	No	YYYYMMDDHHMMSS	20141016134500
System Zone	String	-	No	One of B1-B17	B1
Calendar Week Number	Integer	-	No	-	1
Calendar Year	Integer	-	No	-	2011
Output Usable	Integer	-	No	-	14120

Example File

HDR, ZONAL OUTPUT USABLE MW BASED ON OC2 (YEAR 5)DATA
ZOUY5,201004231113,B1,1,2015,14120
ZOUY5,201004231113,B1,2,2015,13390
FTR,2

6.1.42 SO-SO PRICES (SO-SO)

API service details for the flow is as follows

Service Name	sosoPricesService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/SOSOP/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&StartTime=<StartTime>&TradeType=<TradeType>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/SOSOP/<VersionNo>?APIKey=<APIKey>&SettlementDate=<SettlementDate>&StartTime=<StartTime>&TradeType=<TradeType>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV

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Description	1. Default Sorting: Date (Ascending), Start Time (Ascending) 2. Input data flow : SOSO
Comments	Default Value (if none specified): Settlement Date = Current System Date -1, Start Time = *, Trade Type = ALL

API Web service – Request and Response format details:

API Webservice – Request - SO-SO Prices (SO-SO)

Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML
Settlement Date	String	-	No	YYYY-MM-DD	2014-12-31
Start time	String	-	No	HH:MM	-
Trade Type	String	-	No	-	ALL, BALIT_NG, BALIT_RTE, BritNed_NG, BritNed_TN, EWIC_EG, EWIC_NG, MOYLE_NG, MOYLE_SN

API Webservice – Response – SO-SO Prices (SO-SO)

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed String value "SO-SO PRICES"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample values
Record Type	String	-	No	-	SOSO
Trade Type	String	-	No	-	BALIT_NG
Start Time	Date	-	No	1.1.1.112 HH:MM:SS	23:00:00
Date	Date	-	No	1.1.1.113 YYYY-MM-DD	2014-09-08
Trade Direction	String	-	No	A01, A02	A01
Contract Identification	String	-	No	-	NG_20140908_2300_20
Trade Quantity	Integer	-	No	MW	55
Trade Price	Double	-	No	Currency/MWh	57.07

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Active Flag	String	-	No	-	Y
-------------	--------	---	----	---	---

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample values
Record Type	String	-	No	-	SOSO
Trade Type	String	-	No	-	BALIT_NG
Start Time	Date	-	No	1.1.1.114 YYYYMMDDHHMMSS	20100422170000
Trade Direction	String	-	No	A01, A02	A01
Contract Identification	String	-	No	-	NG_20140908_2300_20
Trade Quantity	Integer	-	No	MW	55
Trade Price	Double	-	No	Currency/MWh	57.07

Example File

HDR,SO-SO PRICES

SOSO,BALIT_NG,20100422170000,A01,RTE_20101225_1000_3,12584,24.25

SOSO,BALIT_NG,20100422180000,A02,RTE_20101225_1000_27,10524,30.16

FTR,2

6.1.43 SO-SO TRADES

API service details for the flow is as follows

Service Name	sosoTradesService
Method	GET
Input URL	<a href="https://<host>:<port>/BMRS/SOSOT/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>">https://<host>:<port>/BMRS/SOSOT/<VersionNo>?APIKey=<APIKey>&ServiceType=<xml/XML/csv/CSV>
Output Format	XML/CSV
Description	1. Default Sorting: Warning Date/Time (Ascending) 2. Input data flow : SYS_WARN
Comments	-

API Web service – Request and Response format details:

API Webservice – Request - SO-SO Trades

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Logical Field Name	Field Type	Remarks	Mandatory	Format	Sample data
ApiKey	String	-	Yes	-	AP8DA23
Service Type	String	-	No	-	csv/CSV/xml/XML

API Webservice – Response – SO-SO Trades

Header Record:

Report Output Field Mapping	Condition
Record Type	Fixed string value "HDR"
File Type	Fixed String value "SO-SO TRADES"

Body Record:

Logical Field Name	Field Type	Remarks	Mandatory	XML Format	Sample values
RecordType	String	-	No	-	SOSOT
Warning Date/Time	Date	-	No	1.1.1.115 YYYY-MM-DD HH:MM	2014-12-31 13:31
Message Text	String	-	No	-	National Grid Notification
Active Flag	String	-	No	-	Y

CSV Download service

Logical Field Name	Field Type	Remarks	Mandatory	CSV Format	Sample values
RecordType	String	-	No	-	SOSOT
Warning Date/Time	Date	-	No	1.1.1.116 YYYYMMDDHHMM	201412311331
Message Text	String	-	No	-	National Grid Notification

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DATA PUSH SERVICE

7 Data Push Service

BMRS phase 2 contains a new capability that allows the near real-time publishing of information from the BMRS system to industry participants. This document will describe how participant's can connect to this service and will describe what information is available from the service.

8 Connectivity

The BMRS Data Push Service supports a variety of Cross Language Clients and Protocols from Java, C, C++, C#, Ruby, Perl, Python, PHP to name a few. We also support several protocols for communication to the BMRS Data Push Service. These are as follows:

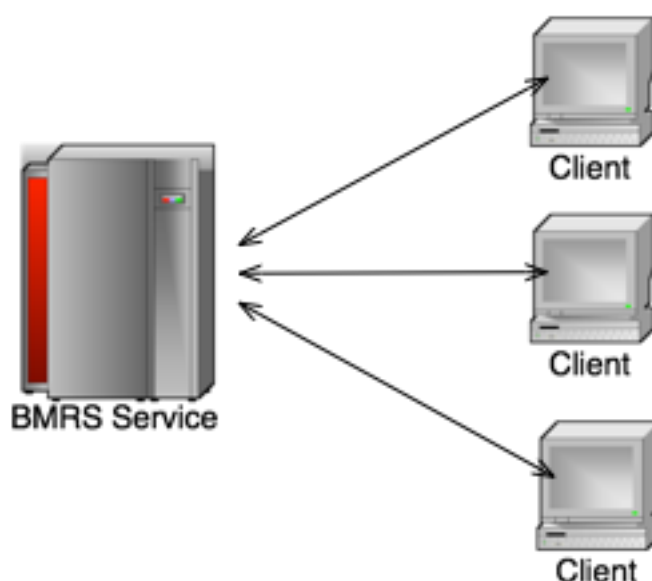
Protocol	Brief description
OpenWire	OpenWire is the default cross language wire protocol that is supported by the BMRS Data Push Service.
Stomp	The BMRS Data Push Service implements version 1.1 of the STOMP wire protocol. STOMP is the Simple (or Streaming) Text Orientated Messaging Protocol. STOMP provides an interoperable wire format so that STOMP clients can communicate with any STOMP message broker to provide easy and widespread messaging interoperability among many languages, platforms and brokers.
AMQP	The BMRS Data Push Service implements version 1.0 of the OASIS AMQP TC protocol. The OASIS AMQP TC advances a vendor-neutral and platform-agnostic protocol that offers organizations an easier; more secure approach to passing real-time data streams and business transactions. The goal of AMQP is to ensure information is safely and efficiently transported between applications, among organizations, across distributed cloud computing environments, and within mobile infrastructures. AMQP avoids proprietary technologies, offering the potential to lower the cost of enterprise middleware software integrations through open interoperability. By enabling a commoditized, multi-vendor ecosystem, AMQP seeks to create opportunities for transforming the way business is done in the Cloud and over the Internet.

9 Topology

The BMRS Data Push Service allows two different approaches for the receipt of the messages. Depending upon the number of client's that require the receipt of these messages within a participant's organisation would determine the approach to use.

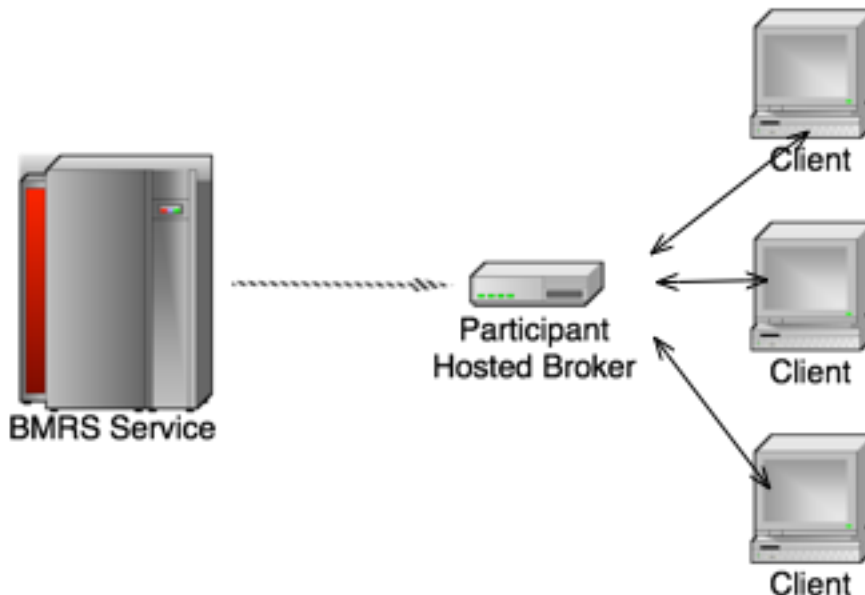
9.1 Client direct connection

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In this mode, each client will connect to the BMRS Data Push service and receive messages as they are published. This approach is advised if the participant wishes to connect only one or two clients to the BMRS Data Push Service due to the amount of traffic replicated over the Internet to each client. Due to the nature of the messages being delivered there may be a slight delay between each client receiving the message.

9.2 Participant hosted broker



If a participant wishes to connect several clients to the BMRS Data Push Service it is the recommendation for that participant to host their own broker. This would mean that only one instance of the message is transmitted over the Internet to the participant's network thus reducing traffic or latency.

The participant's clients would then connect over the participant's local LAN to the participant's broker to receive the messages. This approach provides the participant with the quickest approach for messages to be delivered to multiple clients.

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9.3 Push Data XSDs

The XSDs for the push data service can be found on the ELEXON Portal in the "[BMRS API & Data Push](#)" Folder as shown below.

The screenshot shows the ELEXON Portal interface. At the top, there is a search bar and navigation links: HOME, FAQs, USER GUIDE, SEARCH, and FEEDBACK. Below this, a breadcrumb trail indicates the current location: YOU ARE HERE > Content > BMRS API & Data Push. The main content area is titled 'BMRS API & Data Push' and includes buttons for 'New article', 'New category', and 'New board'. A description states: 'This area of the portal contains documentation and support materials related to the use of the BMRS API and the BMRA Data Push Service.' Below this, a table lists documents. The first entry, 'Data Push Service XML Schema Definitions', is circled in red. The table also shows the 'Last Modified' date as 16/06/2015. On the right side, there is a 'MY PORTAL' section with a user profile for 'zaahir ghanty', links to 'My Profile' and 'My Download Basket (empty)', and a list of bookmarks including 'BMRA Data Archive (formerl...', 'Market Domain Data (MDD)', 'Registered BM Units', 'Generation by Fuel Type - ...', and 'SVA Line Loss Factors'. A 'log out' button is located at the bottom right of the portal section.

9.4 Protocol Connection Strings

Here are some examples of protocol connection strings for connectivity to the data push service

Protocol	Sample URL
OpenWire over TCP	ssl://<host>:61616
OpenWire over HTTPS	https://<host>:61617
Stomp	stomp+ssl://<host>:61613
AMQP	amqp+ssl://<host>:5672

9.5 Data Push Service – Summary Data Set

The list of data available via the data push service is listed in the table below.

Please note: the data set from Phase 1 (Transparency and REMIT) from table 4.2.1 will also be available via the Data Push Service from July 2015.

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Interface ID	Data flow type	Data Items	Date set IDD ref	Phase & Delivery Date
BMRA-I004	Balancing Mechanism Data	Bid-Offer Acceptance Level Flagged Data	BOALF	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Bid-Offer Data	BOD	Phase 2 (July 2015)
BMRA-I004	Balancing Mechanism Data	Maximum Delivery Period	MDP	Phase 2 (July 2015)
BMRA-I004	Balancing Mechanism Data	Maximum Delivery Volume	MDV	Phase 2 (July 2015)
BMRA-I004	Balancing Mechanism Data	Maximum Export Limit	MEL, MELS	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Maximum Import Limit	MIL, MILS	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Minimum Non-Zero Time	MNZT	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Minimum Zero Time	MZT	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Notice to Deviate from Zero	NDZ	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Notice to Deliver Bids	NTB	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Notice to Deliver Offers	NTO	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Point FPN Data	PN, FPN	Phase 2 (July 2015)
BMRA-I004	Balancing Mechanism Data	Applicable Balancing Services Volume Data	QAS	Phase 2 (July 2015)
BMRA-I004	Balancing Mechanism Data	Point Quiescent FPN Data	QPN	Phase 2 (July 2015)
BMRA-I004	Balancing Mechanism Data	Run Down Rates Export	RDRE	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Run Down Rates Import	RDRI	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Run Up Rates Export	RURE	Phase 3 (March 2016)

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BMRA-I004	Balancing Mechanism Data	Run Up Rates Import	RURI	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Stable Export Limit	SEL	Phase 3 (March 2016)
BMRA-I004	Balancing Mechanism Data	Stable Import Limit	SIL	Phase 3 (March 2016)
BMRA-I005	System Related Data	Balancing Services Adjustment Action ID (unique for Settlement Period), Balancing Services Adjustment Action Cost (£), Balancing Services Adjustment Action Volume (MWh), Balancing Services Adjustment Action SO-Flag (T/F)	DISBSAD	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Output Usable by Fuel Type, 2-14 Day	FOU2T14D	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Output Usable by Fuel Type, 2-52 Week	FOU2T52W	Phase 2 (July 2015)
BMRA-I005	System Related Data	Realtime Transmission System Frequency Data	FREQ	Phase 2 (July 2015)
BMRA-I005	System Related Data	Half Hourly Generation By Fuel Type	FUELHH	Phase 2 (July 2015)
BMRA-I005	System Related Data	Instantaneous Generation By Fuel Type	FUELINST	Phase 2 (July 2015)
BMRA-I005	System Related Data	Indicated Imbalance	IMBALNGC	Phase 2 (July 2015)
BMRA-I005	System Related Data	Sum of PN Demand (MW), (Indicated Demand)	INDDEM	Phase 2 (July 2015)
BMRA-I005	System Related Data	Sum of PN Generation (MW), (Indicated Generation)	INDGEN	Phase 2 (July 2015)
BMRA-I005	System Related Data	Initial National Demand Out-Turn	INDO	Phase 2 (July 2015)
BMRA-I005	System Related Data	Outturn Volume (MWh), Normal Volume (MWh), High Volume (MWh), Low Volume (MWh)	INDOD	Phase 2 (July 2015)
BMRA-I005	System Related Data	Initial Transmission System Demand Out-Turn	ITSDO	Phase 2 (July 2015)
BMRA-I005	System Related Data	Indicated Margin	MELNGC	Phase 2 (July 2015)
BMRA-I005	System Related Data	Market Index Price, Market Index Volume	MID	Phase 2 (July 2015)
BMRA-I005	System Related Data	Missing Market Index Data Messages	Missing MID	Phase 2 (July 2015)

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BMRA-I005	System Related Data	National Demand Forecast	NDF	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Demand Forecast Day, 2-14 Day	NDFD	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Demand Forecast Week, 2-52 Week	NDFW	Phase 2 (July 2015)
BMRA-I005	System Related Data	Net Energy Buy Price Cost Adjustment (EBCA) (£), Net Energy Buy Price Volume Adjustment (EBVA) (MWh), Net System Buy Price Volume Adjustment (SBVA) (MWh), Buy Price Price Adjustment (BPA) (£/MWh), Net Energy Sell Price Cost Adjustment (ESCA) (£), Net Energy Sell Price Volume Adjustment (ESVA) (MWh), Net System Sell Price Volume Adjustment (SSVA) (MWh), Sell Price Price Adjustment (SPA) (£/MWh)	NETBSAD	Phase 2 (July 2015)
BMRA-I005	System Related Data	Non-BM STOR Out-Turn	NONBM	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Surplus Forecast, 2-14 Day	OCNMFD	Phase 2 (July 2015)
BMRA-I005	System Related Data	Generating Plant Demand Margin, 2-14 Days	OCNMFD2	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Surplus Forecast, 2-52 Week	OCNMFV	Phase 2 (July 2015)
BMRA-I005	System Related Data	Generating Plant Demand Margin, 2-52 Weeks	OCNMFV2	Phase 2 (July 2015)
BMRA-I005	System Related Data	SO-SO Prices	SO-SO	Phase 2 (July 2015)
BMRA-I005	System Related Data	System Message	SYSMSG	Phase 3 (March 2016)
BMRA-I005	System Related Data	System Zone Map	System Zone Map	Phase 3 (March 2016)
BMRA-I005	System Related Data	System Warnings	SYSWARN	Phase 2 (July 2015)
BMRA-I005	System Related Data	Outturn Temperature, Low Reference Temperature, Normal Reference Temperature, High Reference Temperature (all degrees Celsius)	TEMP, REFTEMP	Phase 2 (July 2015)
BMRA-I005	System Related Data	Transmission System Demand Forecast	TSDF	Phase 2 (July 2015)
BMRA-I005	System Related Data	Transmission System Demand Forecast Day, 2-14 Day	TSDFD	Phase 2 (July 2015)

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BMRA-I005	System Related Data	Transmission System Demand Forecast Week, 2-52 Week	TSDFW	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Output Usable by Fuel Type and BM Unit, 2-14 Day	UOU2T14D	Phase 2 (July 2015)
BMRA-I005	System Related Data	National Output Usable by Fuel Type and BM Unit, 2-52 Week	UOU2T52W	Phase 2 (July 2015)
BMRA-I005	System Related Data	Generation Forecast (MW), Total Registered Capacity (MW)	WINDFOR	Phase 2 (July 2015)
BMRA-I006	Derived Data	Period Bid and Offer Acceptance Volumes (QAB, QAO and CADL Flag)	BOAV	Phase 3 (March 2016)
BMRA-I006	Derived Data	Estimated Period BM Unit Total Accepted Bid and Offer Volume (QAB and QAO), Estimated Period BM Unit Tagged Accepted Bid and Offer Volume (QTAB and QTAO), Estimated Period BM Unit Repriced Accepted Bid and Offer Volume (QRAB and QRAO), Estimated Period BM Unit Originally-Priced Accepted Bid and Offer Volume (QOAB and QOAO)	DISPTAV	Phase 3 (March 2016)
BMRA-I006	Derived Data	Estimated Bid Offer Cash flows	EBOCF	Phase 3 (March 2016)
BMRA-I006	Derived Data	Index, Component Identifier, Acceptance Number, Bid-Offer Pair Number, CADL Flag (T/F), SO-Flag (T/F), Repriced Indicator (T/F), Volume (MWh), DMAT Adjusted Volume (MWh), Arbitrage Adjusted Volume (MWh), NIV Adjusted Volume (MWh), PAR Adjusted Volume (MWh), Final Price (£/MWh), Transmission Loss Multiplier, TLM Adjusted Volume (MWh), TLM Adjusted Cost (£)	ISPSTACK	Phase 3 (March 2016)
BMRA-I006	Derived Data	Estimated Period Balancing Mechanism Bid and Offer Cashflows (CB and CO)	PTAV	Phase 3 (March 2016)
BMRA-I006	Derived Data	Disaggregated Estimated Buy and Sell Price	DISEBSP	Phase 3 (March 2016)
BMRA-I006	Derived Data	Total Bid Volume and Total Offer Volume	TBOD	Phase 3 (March 2016)
BMRA-I019	Credit Default Notices	Credit Default Notices	CDN	Phase 2 (July 2015)

BMRS

APPENDICES

10 Appendix A – Example Source Code RESTful Service

10.1 Java

The following code demonstrates calling the RESTful service using standard Java API or using the Apache Commons API.

```
import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;
import java.net.HttpURLConnection;
import java.net.URL;
import org.apache.http.HttpEntity;
import org.apache.http.HttpResponse;
import org.apache.http.client.HttpClient;
import org.apache.http.client.methods.HttpPost;
import org.apache.http.impl.client.HttpClients;

public class WebPageDownloaderTestbed {

    private static final String ELEXON_PORTAL_KEY = "YOUR KEY HERE";

    public static void main(String[] args) {
        httpPostJava(); // or httpPostApache()
    }

    public static void httpPostApache() {
        try {
            HttpClient httpClient = HttpClients.createDefault();

            HttpPost httpPost = new HttpPost("https://api.bmreports.com/BMRS/MessageListRetrieval/V1?ServiceType=XML&APIKey=" + ELEXON_PORTAL_KEY + "&EventStart=2014-01-01&EventEnd=2014-01-02");
```

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```
        System.out.println(httpPost.toString());

//Execute and get the response.
        HttpResponse response = httpClient.execute(httpPost);
        HttpEntity entity = response.getEntity();

        if (entity != null) {

            BufferedReader rd = new BufferedReader(
                new InputStreamReader(entity.getContent()));

            StringBuilder result = new StringBuilder();
            String line = "";
            while ((line = rd.readLine()) != null) {
                result.append(line);
            }

            System.out.println(result.toString());
        }
    } catch (Exception ex) {
        ex.printStackTrace();
    }
}

public static void httpPostJava() {
    String uri = null;
```

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```
String params = null;
uri = "https://testapi.bmreports.com/BMRS/MessageListRetrieval/V1";
params = "APIKey=" + ELEXON_PORTAL_KEY
        + "&EventStart=2014-01-01&EventEnd=2014-01-02";

System.out.println(callServer(uri, params));
}

private static String callServer(final String uri, final String params) {
    OutputStreamWriter osw = null;
    BufferedReader br = null;
    HttpURLConnection urlConn = null;
    StringBuffer retVal = new StringBuffer();
    try {
        final URL url = new URL(uri + "?" + params);
        urlConn = (HttpURLConnection) url.openConnection();
        urlConn.setRequestMethod("POST");
        urlConn.setDoOutput(true);
        urlConn.setDoInput(true);
        urlConn.setUseCaches(false);
        urlConn.setAllowUserInteraction(false);
        urlConn.setRequestProperty("Content-Type",
            "application/x-www-form-urlencoded");

        // Get the response
        br = new BufferedReader(new InputStreamReader(
```

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```
        urlConn.getInputStream());  
String line = null;  
while ((line = br.readLine()) != null) {  
    retVal.append(line).append("\n");  
}  
} catch (Exception e) {  
    throw new RuntimeException(e);  
} finally {  
    try {  
        osw.close();  
    } catch (Exception ignore) {  
    }  
    try {  
        br.close();  
    } catch (Exception ignore) {  
    }  
    try {  
        urlConn.disconnect();  
    } catch (Exception ignore) {  
    }  
}  
return retVal.toString();  
}  
}
```

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10.2 Python

The following code is written in python and demonstrates calling the Elexon RESTful API. Please note that you need to replace the **YOUR_API_KEY_HERE** with the key from the Elexon portal.

```
#!/usr/bin/env python

import httplib2

# These aren't needed, just for this example
from pprint import pprint

def post_elexon(url):
    http_obj = httplib2.Http()
    resp, content = http_obj.request(
        uri=url,
        method='POST',
        headers={'Content-Type': 'application/xml; charset=UTF-8'},
    )
    print '===Response===\n'
    pprint(content)

    print '===Content===\n'
```

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```
print pformat(content)

print '==Finished=='

def main():

    post_elxon(
        url='https://api.bmreports.com/BMRS/B1770/v1?APIKey=YOUR_API_KEY_HERE&SettlementDate=2015-03-01&Period=1&ServiceType=xml',
    )

if __name__ == "__main__":
    main()
```

11 Appendix B – Example Push Data Service Source Code

11.1 Java – onMessage example

```
import java.io.FileWriter;
import java.io.PrintWriter;
import javax.jms.Connection;
import javax.jms.ConnectionFactory;
import javax.jms.JMSException;
import javax.jms.MessageConsumer;
import javax.jms.MessageListener;
```

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```
import javax.jms.Session;

import javax.jms.Topic;


import org.apache.activemq.ActiveMQConnectionFactory;
import org.apache.activemq.command.ActiveMQTextMessage;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;


/**
 *
 * @author stephen
 */
public class Subscriber {

    // --- Start of connection details

    private static final String URL = "ssl://api.bmreports.com:61616"; // This is the connection string to the ELEXON servers
    private static final String APIKEY = "<YOUR API KEY GOES HERE>"; // This is your API key from the portal
    private static final String CLIENTID = "<YOUR CLIENT ID GOES HERE>"; // This is a client name that needs to be unique (this you create)
    private static final String TOPICNAME = "bmrsTopic"; // This is the topic name
    private static final String SUBSCRIPTIONID = "<YOUR SUBSCRIPTION ID GOES HERE>"; // Each durable subscription needs an ID that is unique (this you create)

    // --- End of connection details
```

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```
private static final Logger LOGGER = LoggerFactory
    .getLogger(Subscriber.class);

private Connection connection;
private Session session;
private MessageConsumer messageConsumer;
private static Subscriber subscriberPublishSubscribe;

/**
 * Generic start point.
 *
 * @param args the command line arguments
 * @throws java.lang.Exception
 */
public static void main(String[] args) throws Exception {
    try {
        // Setup and connect to the queue
        subscriberPublishSubscribe = new Subscriber();
        subscriberPublishSubscribe.create(URL, APIKEY, CLIENTID, TOPICNAME, SUBSCRIPTIONID);

    } catch (Exception ex) {
```

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```
LOGGER.error(ex.getLocalizedMessage());

    if (subscriberPublishSubscribe != null) {
        subscriberPublishSubscribe.closeConnection();
    }

}

}

/**
 * This is the method that initiates the connection and sets up the
 * JMSListener
 *
 * @param url - The server and connection protocol
 * @param apikey - the api key to connect with
 * @param clientId - Unique id for this client
 * @param topicName - The topic to listen to
 * @throws JMSEException
 */
public void create(String url, String apikey, String clientId, String topicName, String subId) throws JMSEException {

    // create a Connection Factory
```

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```
ConnectionFactory factory = new ActiveMQConnectionFactory(apikey, apikey, url);
```

```
try {  
    // create a Connection  
    LOGGER.debug("Creating a connection");  
    connection = factory.createConnection();  
    connection.setClientID(clientId);  
  
    // create a Session  
    LOGGER.debug("Creating a session");  
    session = connection.createSession(false, Session.AUTO_ACKNOWLEDGE);  
  
    // create the Topic from which messages will be received  
    LOGGER.debug("Creating the topic connection: " + topicName);  
    Topic topic = session.createTopic(topicName);  
  
    // Set up the message consumer  
    LOGGER.debug("Creating the consumer for: " + topicName);  
    //messageConsumer = session.createConsumer(topic);  
    messageConsumer = session.createDurableSubscriber(topic, subId);  
  
    // Create the listener.
```

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```
LOGGER.debug("Setting up the listener");

JMSMessageListener listener = new JMSMessageListener();

messageConsumer.setMessageListener(listener);


// start the connection in order to receive messages

LOGGER.debug("Starting the connection");

connection.start();

} catch (JMSEException exp) {

    throw exp;

}

}

public void closeConnection() throws JMSEException {

    LOGGER.debug("Closing the connection");

    connection.close();

}

/**
 * This class implements a message listener for the ActiveMQ
 */

class JMSMessageListener implements MessageListener {
```

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```
@Override
public void onMessage(javax.jms.Message msg) {
    try {
        LOGGER.info(msg.toString());

        ActiveMQTextMessage txtMessage = (ActiveMQTextMessage) msg;

        LOGGER.info(txtMessage.getText());

        try (PrintWriter out = new PrintWriter(new FileWriter(txtMessage.getJMSMessageID()))) {
            out.print(txtMessage.getText());
        }

    } catch (Exception ex) {
        LOGGER.error(ex.getMessage());
    }
}
```

11.2 Java – Looping example

```
import javax.jms.Connection;
```

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```
import javax.jms.ConnectionFactory;
import javax.jms.JMSEException;
import javax.jms.Message;
import javax.jms.MessageConsumer;
import javax.jms.Session;
import javax.jms.TextMessage;
import javax.jms.Topic;
import javax.naming.NamingException;
import org.apache.activemq.ActiveMQConnectionFactory;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;

/**
 *
 * @author stephen
 */
public class SubscriberRetry {

    // --- Start of connection details
    private static final String URL = "ssl://api.bmreports.com:61616"; // This is the connection string to the ELEXON servers
    private static final String APIKEY = "<YOUR API KEY GOES HERE>"; // This is your API key from the portal
    private static final String CLIENTID = "<YOUR CLIENT ID GOES HERE>"; // This is a client name that needs to be unique (this you create)
```

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```
private static final String TOPICNAME = "bmrTopic"; // This is the topic name

private static final String SUBSCRIPTIONID = "<YOUR SUBSCRIPTION ID GOES HERE>"; // Each durable subscription needs an ID that is unique (this you create)

// --- End of connection details


private static final Logger LOGGER = LoggerFactory
    .getLogger(SubscriberRetry.class);


private static SubscriberRetry consumer;
private Connection connection;
private Session session;
private MessageConsumer messageConsumer;


private boolean transacted;
private boolean isRunning = false;


/**
 * @param args the command line arguments
 * @throws java.lang.InterruptedException
 */
public static void main(String[] args) throws InterruptedException {

    int retryCount = 20000;
```

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```
int count = 0;

consumer = new SubscriberRetry();

// This runs forever
while (count < retryCount) {

    LOGGER.debug("Attempting connection. Count = " + count);

    try {

        consumer.run();

    } catch (NamingException | JMSEException ex) {

        LOGGER.error(ex.getLocalizedMessage());

        count++;

    } finally {

        LOGGER.debug("Shutting down");

    }

    Thread.sleep(1000);

}

public void run() throws NamingException, JMSEException {

    isRunning = true;

    // create a Connection Factory
```

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```
ConnectionFactory factory = new ActiveMQConnectionFactory(APIKEY, APIKEY, URL);
```

```
// create a Connection
```

```
LOGGER.debug("Creating a connection");
```

```
connection = factory.createConnection();
```

```
connection.setClientID(CLIENTID);
```

```
// create a Session
```

```
LOGGER.debug("Creating a session");
```

```
session = connection.createSession(transacted, Session.AUTO_ACKNOWLEDGE);
```

```
// create the Topic from which messages will be received
```

```
LOGGER.debug("Creating the topic connection: " + TOPICNAME);
```

```
Topic topic = session.createTopic(TOPICNAME);
```

```
// Set up the message consumer
```

```
LOGGER.debug("Creating the consumer for: " + TOPICNAME);
```

```
messageConsumer = session.createDurableSubscriber(topic, SUBSCRIPTIONID);
```

```
// start the connection in order to receive messages
```

```
LOGGER.debug("Starting the connection");
```

```
connection.start();
```

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```
while (isRunning) {  
    LOGGER.debug("Waiting for message...");  
    Message message = messageConsumer.receive(1000);  
    if (message != null && message instanceof TextMessage) {  
        TextMessage txtMsg = (TextMessage) message;  
        LOGGER.debug("Received: " + txtMsg.getText());  
    }  
}  
LOGGER.debug("Closing connection");  
messageConsumer.close();  
session.close();  
connection.close();  
}  
}
```

BMRS

12 Amendment History

Version	Date	Author	Reason
Version 0.1	12 November 2014	Zaahir Ghanty	First Draft for peer review
Version 0.2	12 December 2014	Stephen J. Thompson	Brought into alignment with 0.6 of the API specification
Version 0.3	12 December 2014	Zaahir Ghanty	Update following review
Version 0.4	28 April 2015	Zaahir Ghanty/Stephen J.Thomson	Update to include REST API for Phase 2 & Data Push Service
Version 0.5	18 May 2015	Zaahir Ghanty	Update following user feedback
Version 0.6	14 July 2015	Stephen J. Thompson	Update of API request method from POST to GET
Version 0.7	24 July 2015	Zaahir Ghanty/Stephen J Thompson	Update of API URLs and Java examples for Data Push